

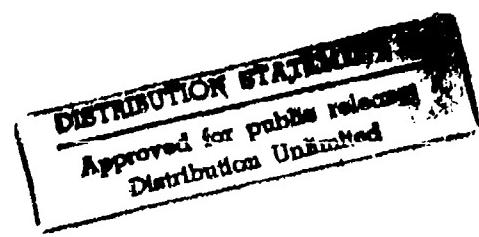
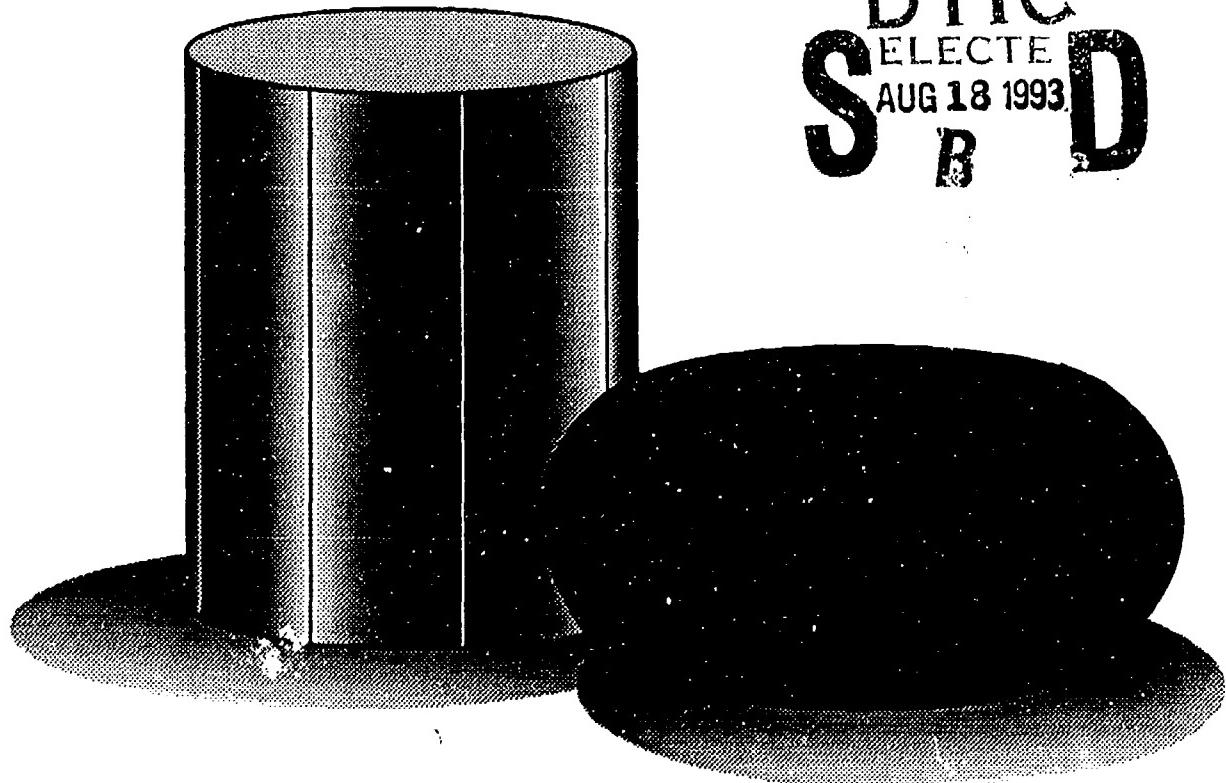
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# Atlas of Formability

Wrought Aluminum 7050  
Flow Stress Curves



93-18971



98-8-16-040

# NCEMT

**ATLAS OF FORMABILITY  
WROUGHT ALUMINUM 7050**

**by**

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1450 Scalp Avenue  
Johnstown, PA 15904**

**for**

**Naval Industrial Resource Support Activity  
Building 75-2, Naval Base  
Philadelphia, PA 19112-5078**

**February 20, 1991**

The views, opinions, and/or findings contained in this report are those of the authors and should not be construed as an official Department of the Navy position, policy, or decision, unless so designated by other documentation

## **REPORT DOCUMENTATION PAGE**

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DTIC QUALITY INSPECTION 3

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Justification	
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A-1	

# Wrought Aluminum 7050

## Composition:

Al Bal.	Co 2.0-2.6	Cr 0.04 MAX	Fe 0.15 MAX	Mg 1.9-2.6
Mn 0.10 MAX	Si 0.12 MAX	Ti 0.06 MAX	Zn 5.7-6.7	Zr 0.08-0.15

## Testing Parameters

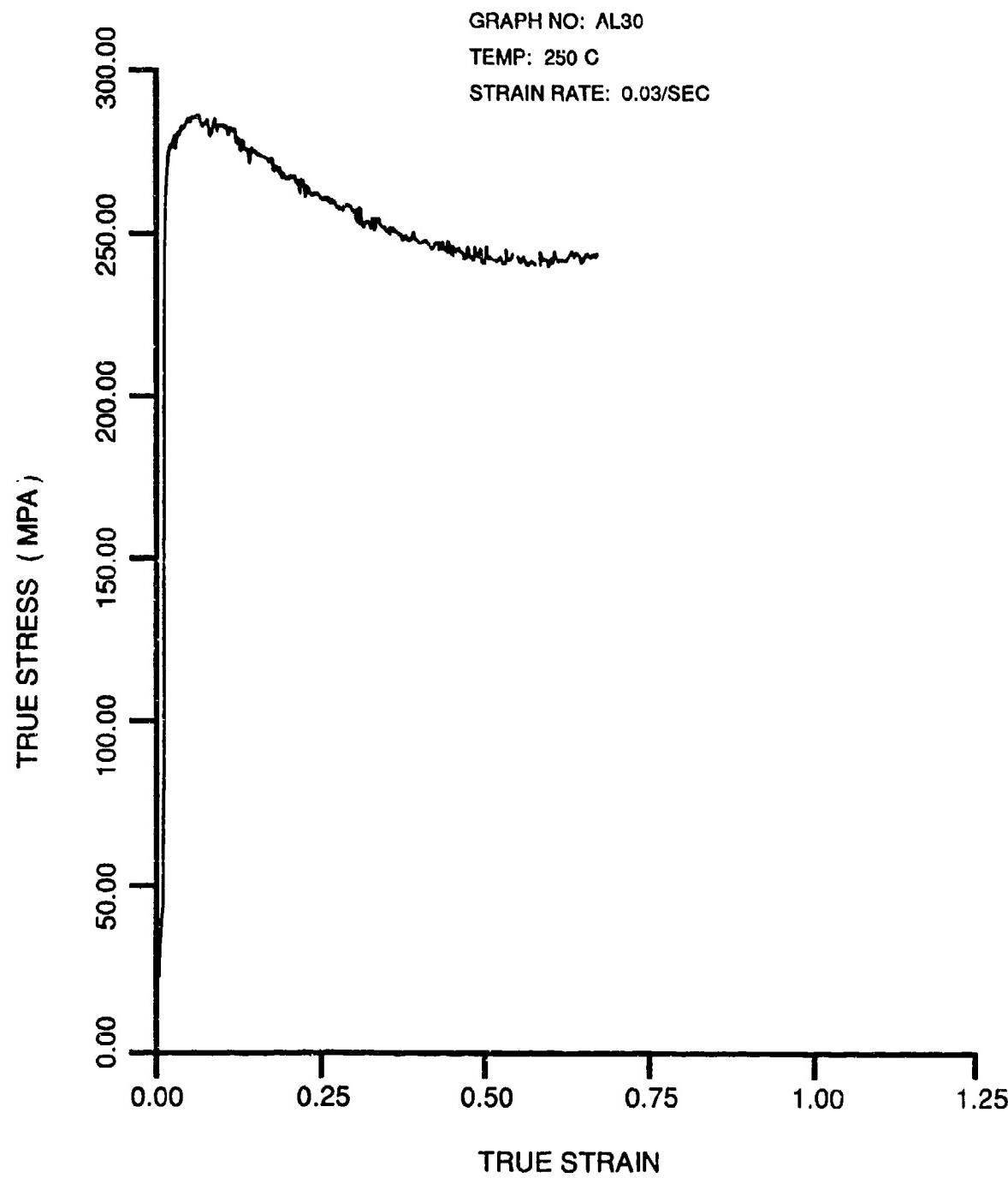
Strain Rate (1/sec.)	Temperature (deg. C)	Graph Number	Heat Treatment (time)	Page Number
0.03	250	AI30	4	3
0.03	300	AI32	4	4
0.03	350	AI33	4	5
0.03	400	AI34	4	6
0.03	477	AI35	4	7
0.03	Combination	AI50	-	8
0.3	300	AI28	4	9
0.3	440	AI27	4	10
0.3	Combination	AI51	-	11
0.6	250	AI37	4	12
0.6	350	AI19	4	13
0.6	400	AI22	4	14
0.6	440	AI24	4	15
0.6	477	AI26	4	16
0.6	Combination	AI52	-	17
2.0	300	AI16	4	18
2.0	400	AI17	4	19
2.0	Combination	AI53	-	20
5.5	425	AI11	0	21
5.5	425	AI12	0.5	22
5.5	425	AI38	0.5*	23

Testing Parameters Continued

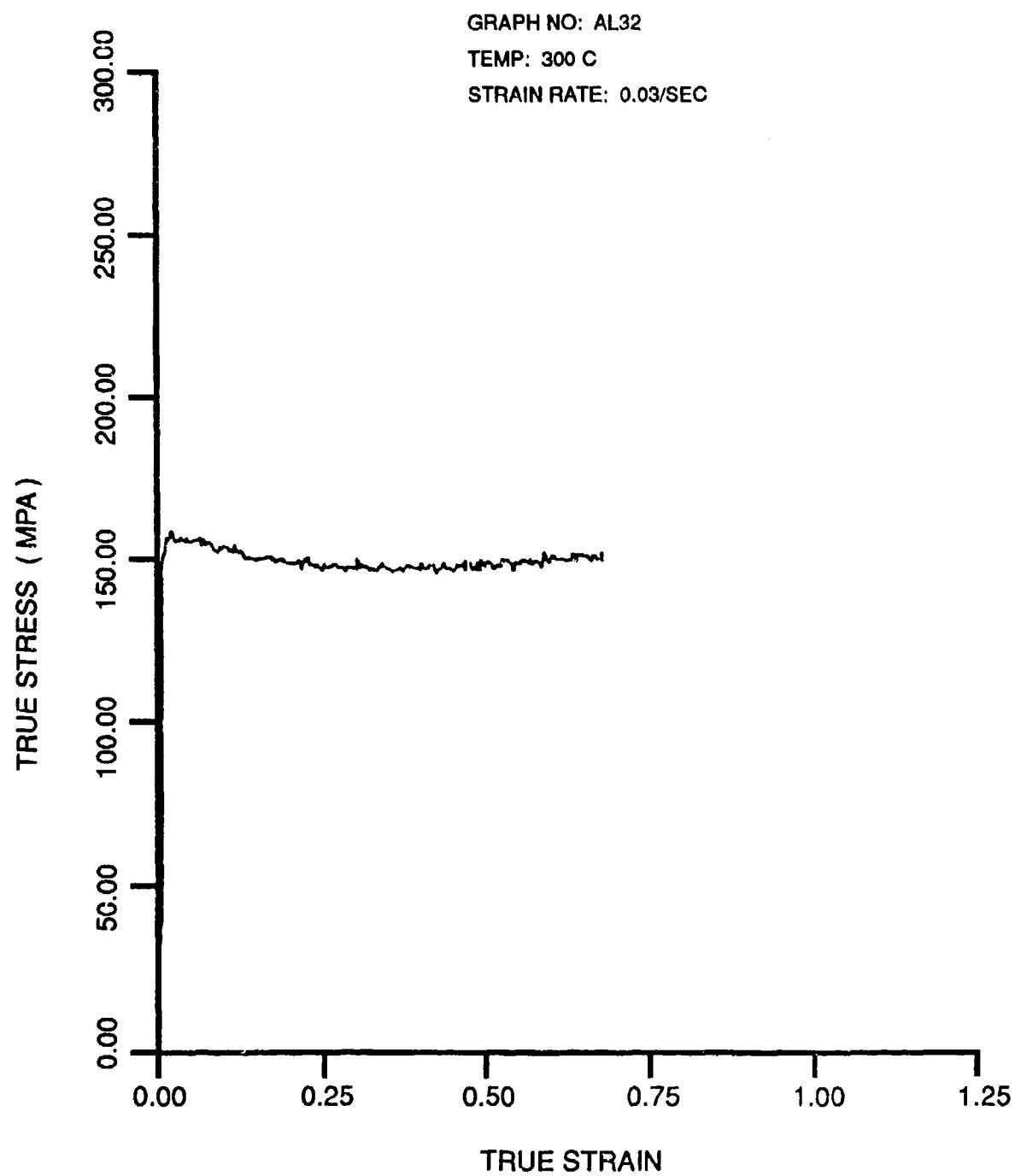
5.5	425	AI13	1	24
5.5	425	AI39	1*	25
5.5	425	AI40	2*	26
5.5	425	AI15	4	27
17.2	250	AI01	4	28
17.2	250	AI02	4*	29
17.2	300	AI03	4	30
17.2	350	AI05	4	31
17.2	400	AI06	4	32
17.2	440	AI07	4	33
17.2	Combination	AI54	-	34

\* NOTES: Specimens not marked by the asterix (\*) were quenched in water after heat treatment and kept in dry ice. They were then heated to the test temperature prior to testing.

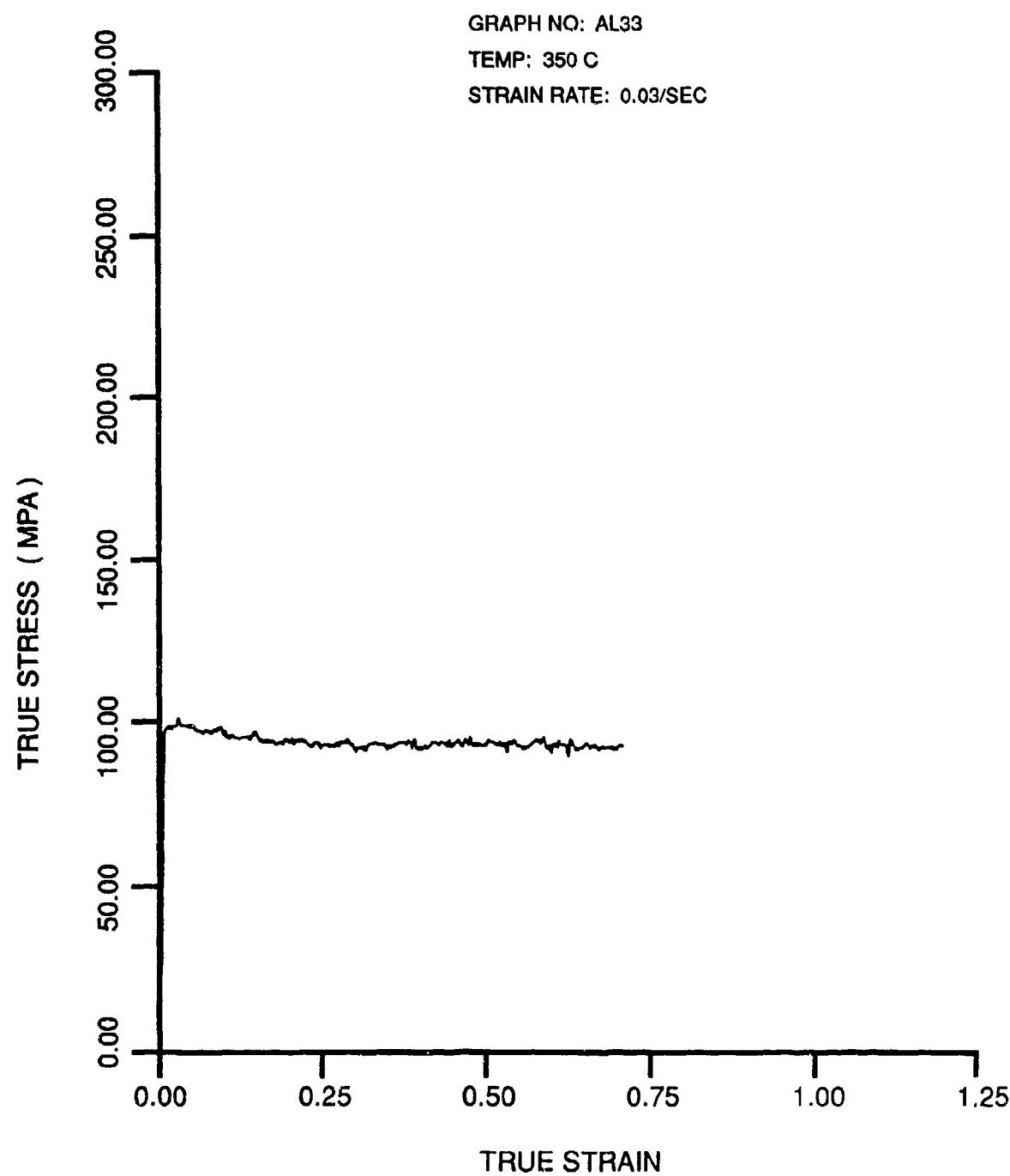
Those specimens marked by the asterisk were also quenched in water after heat treatment and kept in dry ice. Prior to testing, the specimens were reheated for 5 minutes at 475° C inside the test fixture and then cooled to the test temperature.



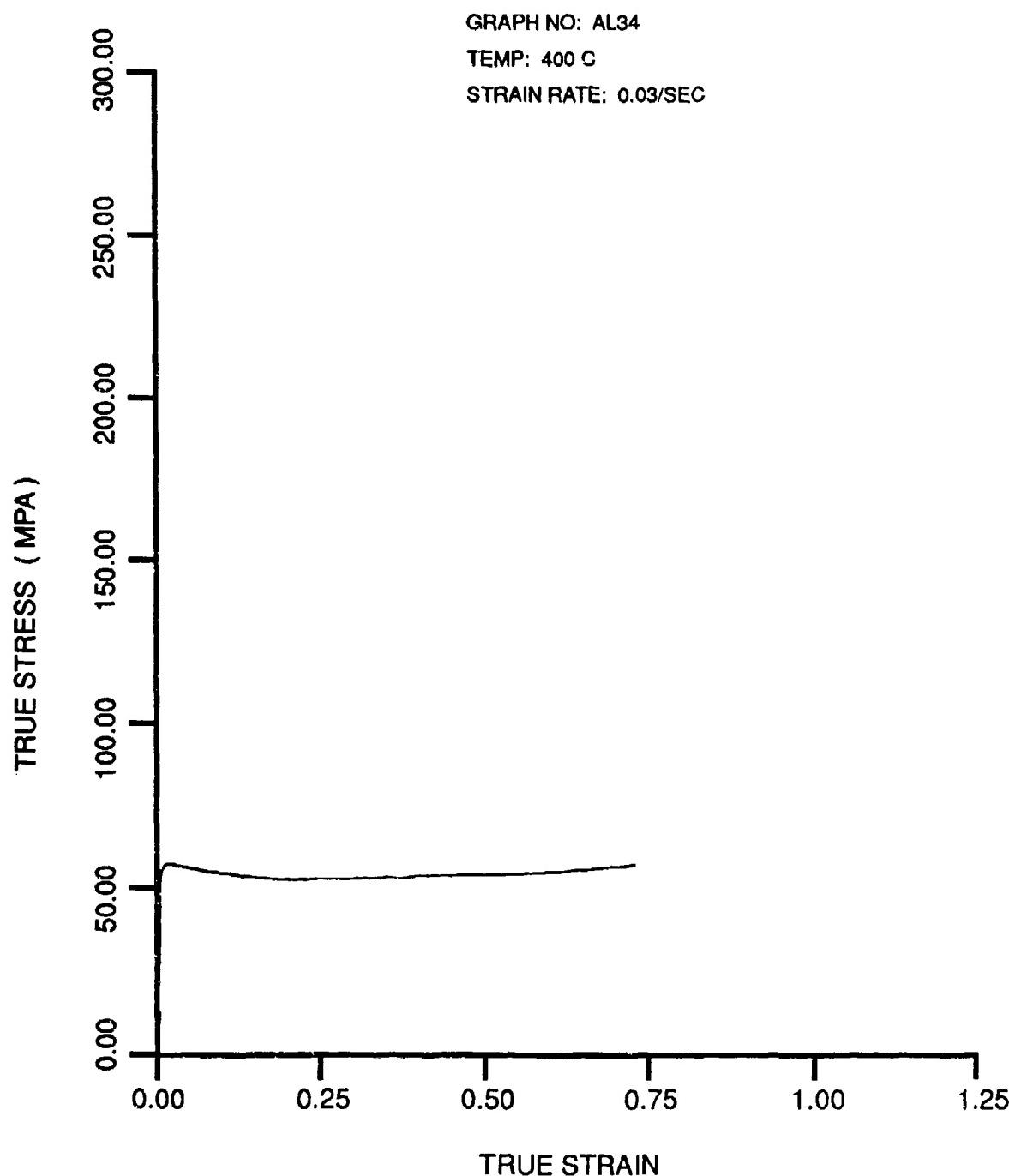
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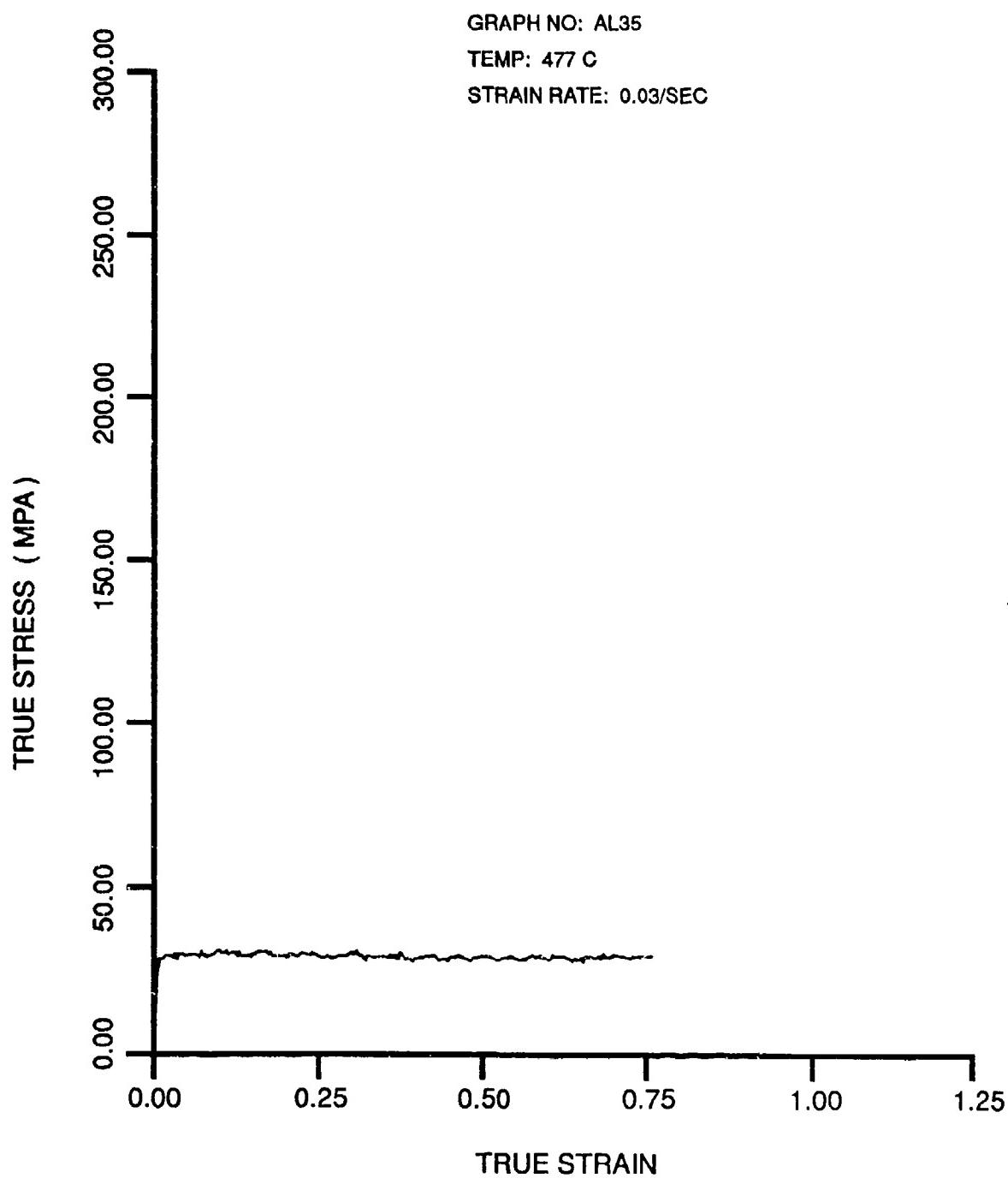
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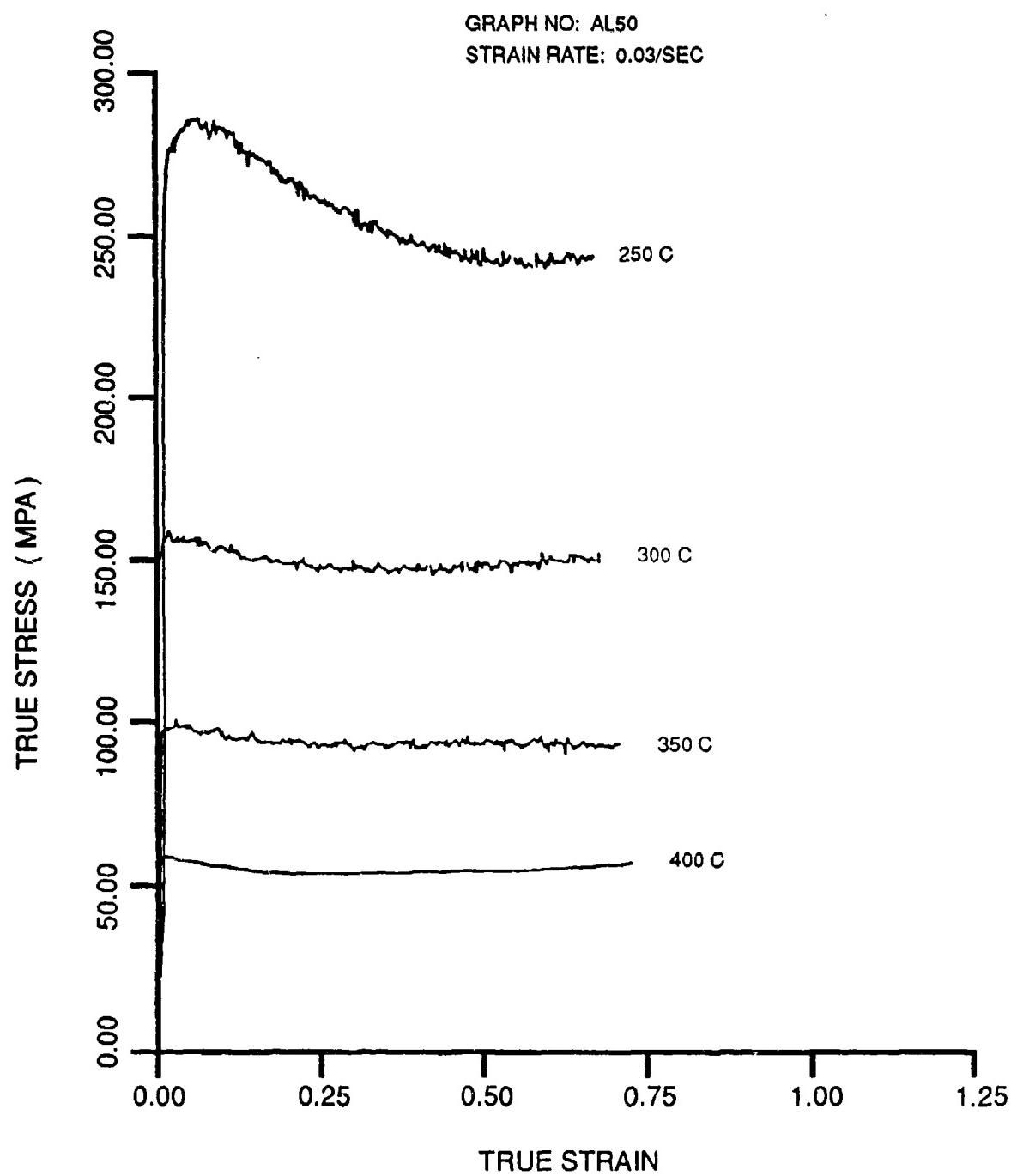
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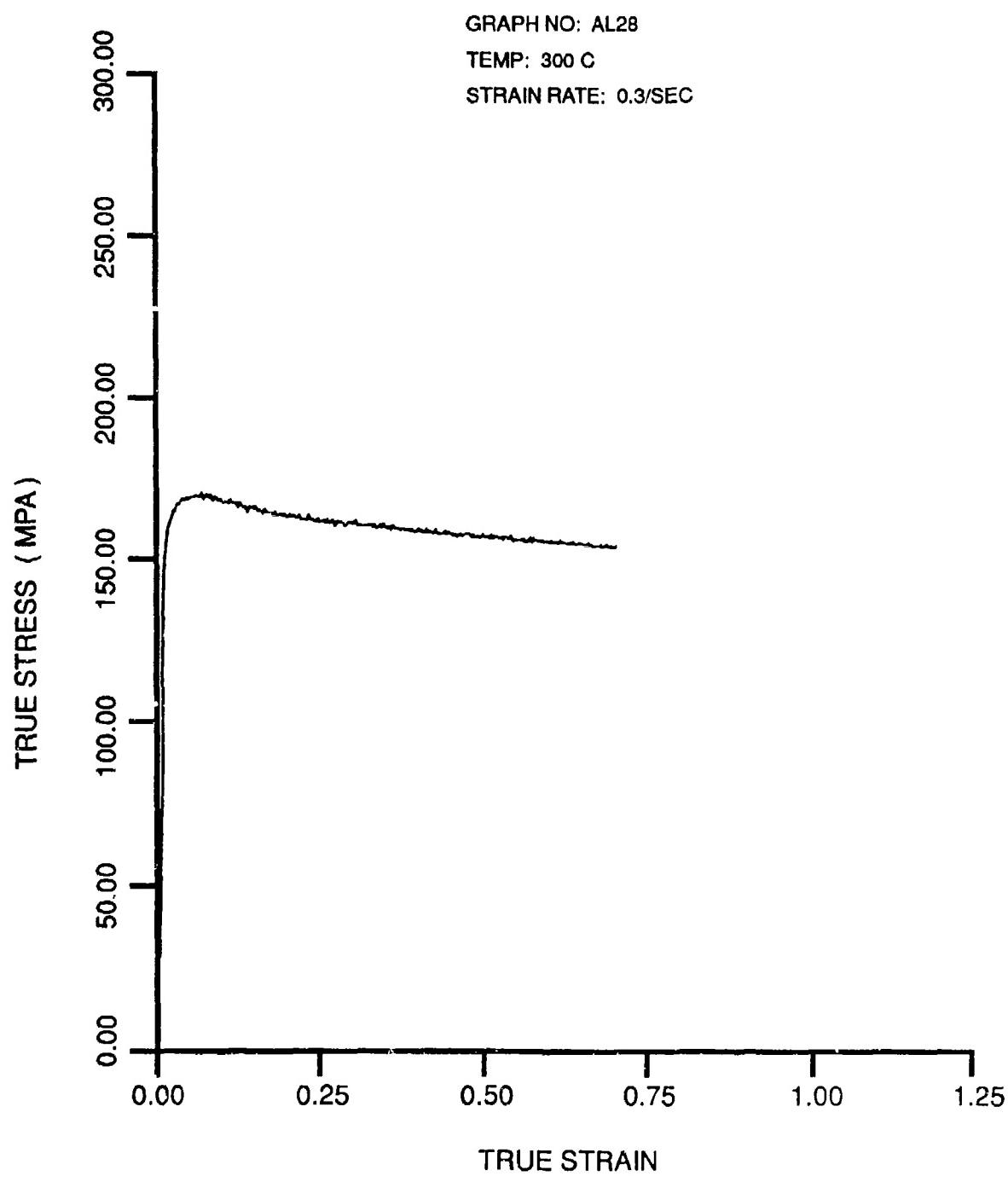
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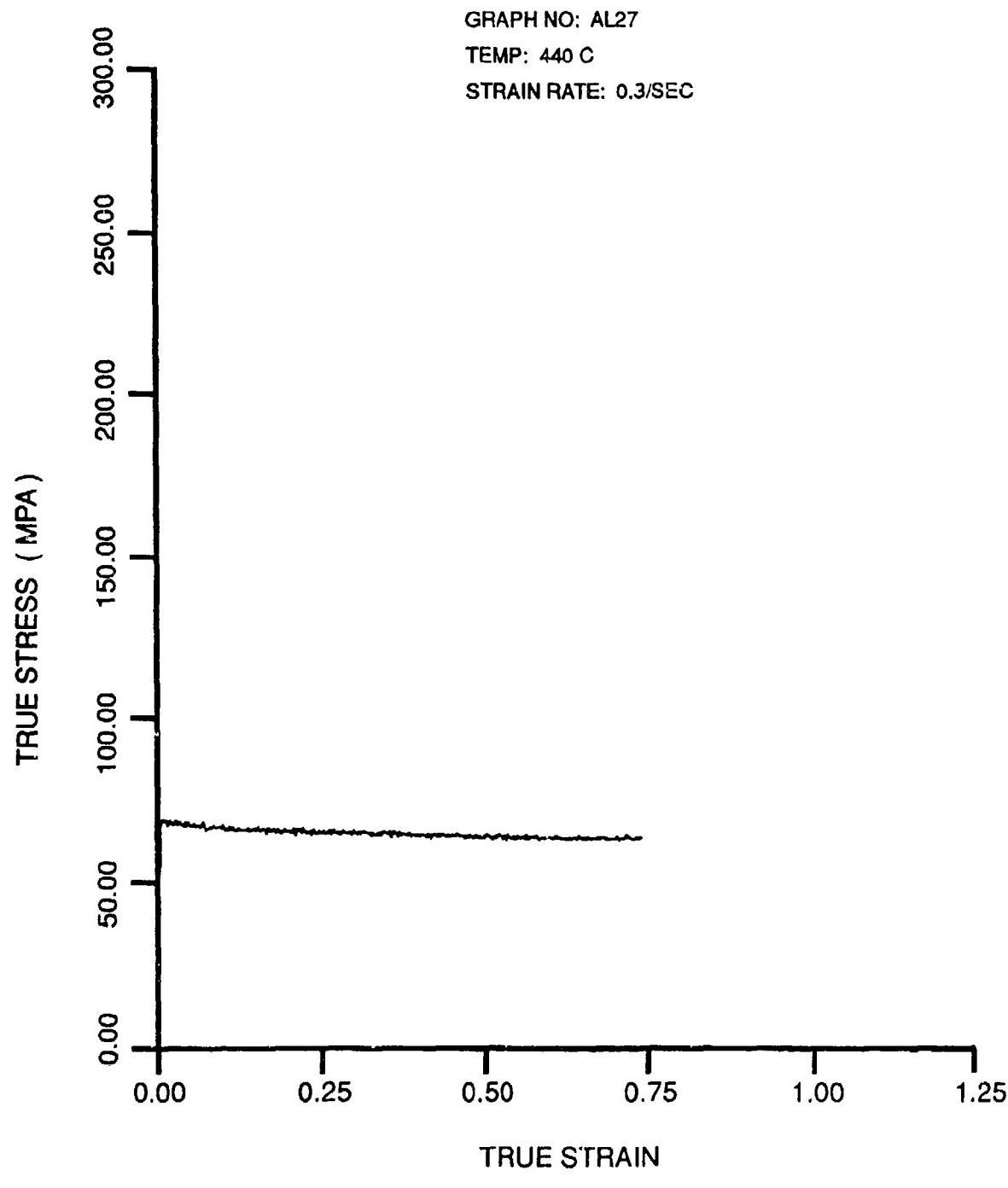
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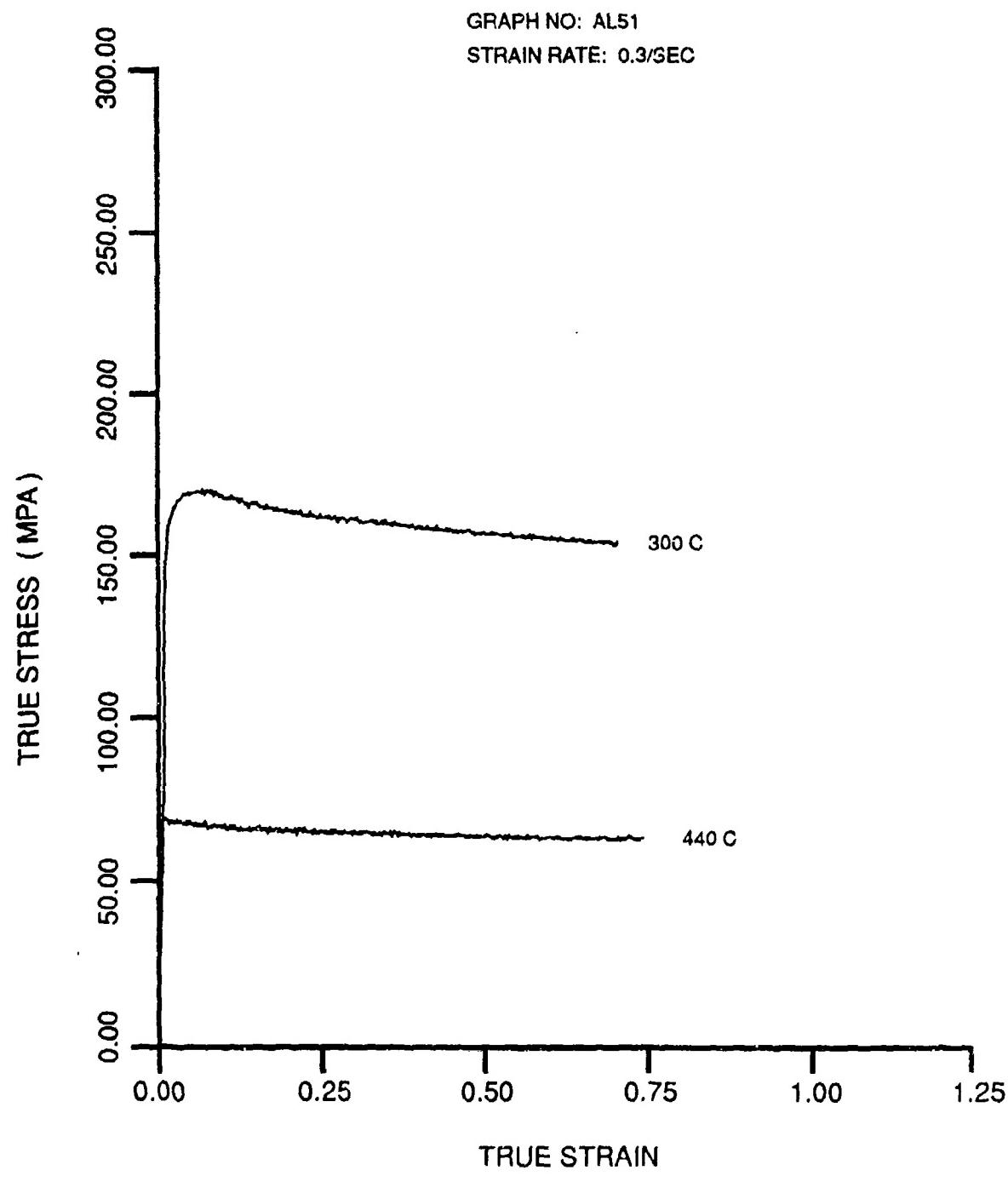
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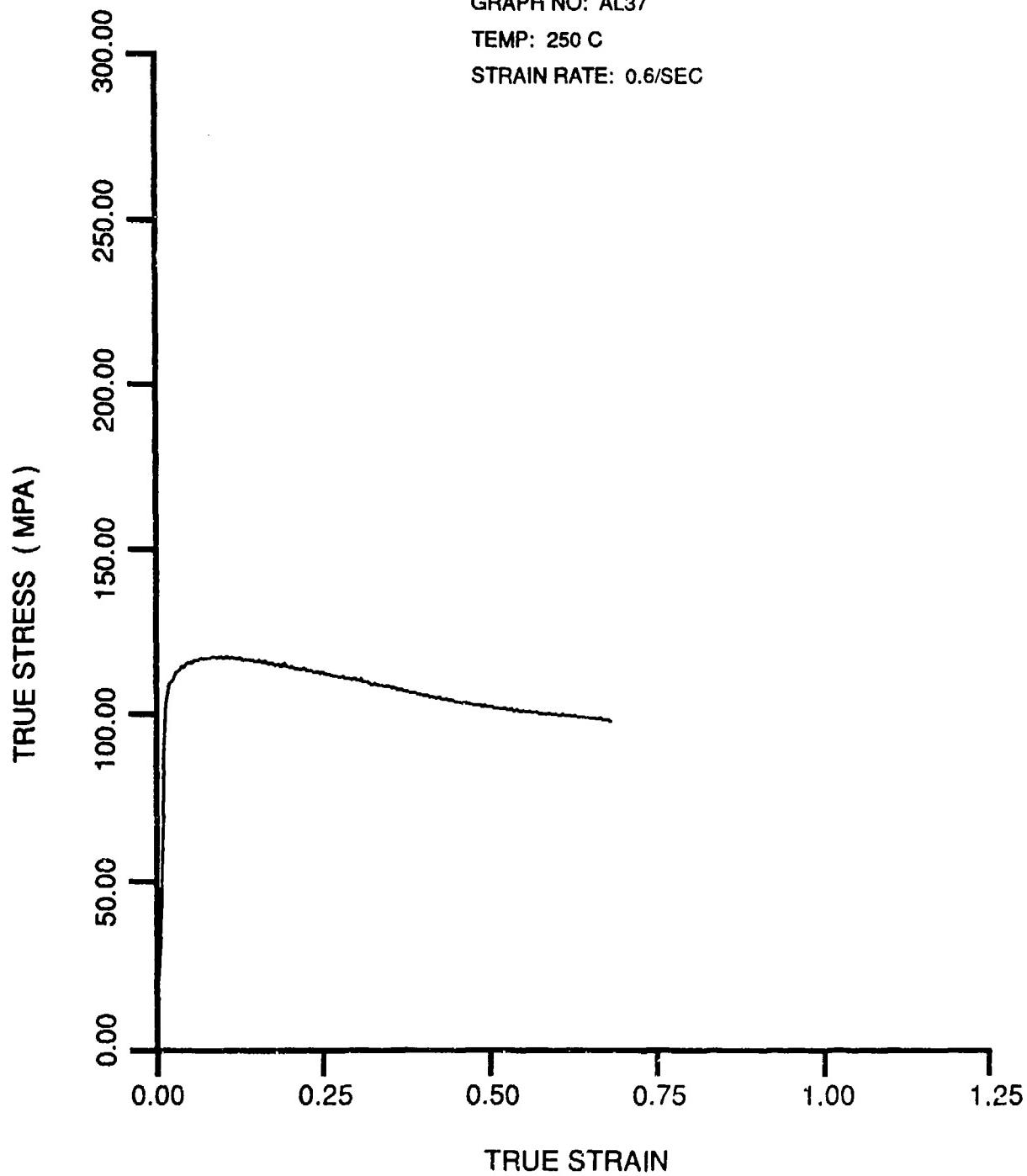


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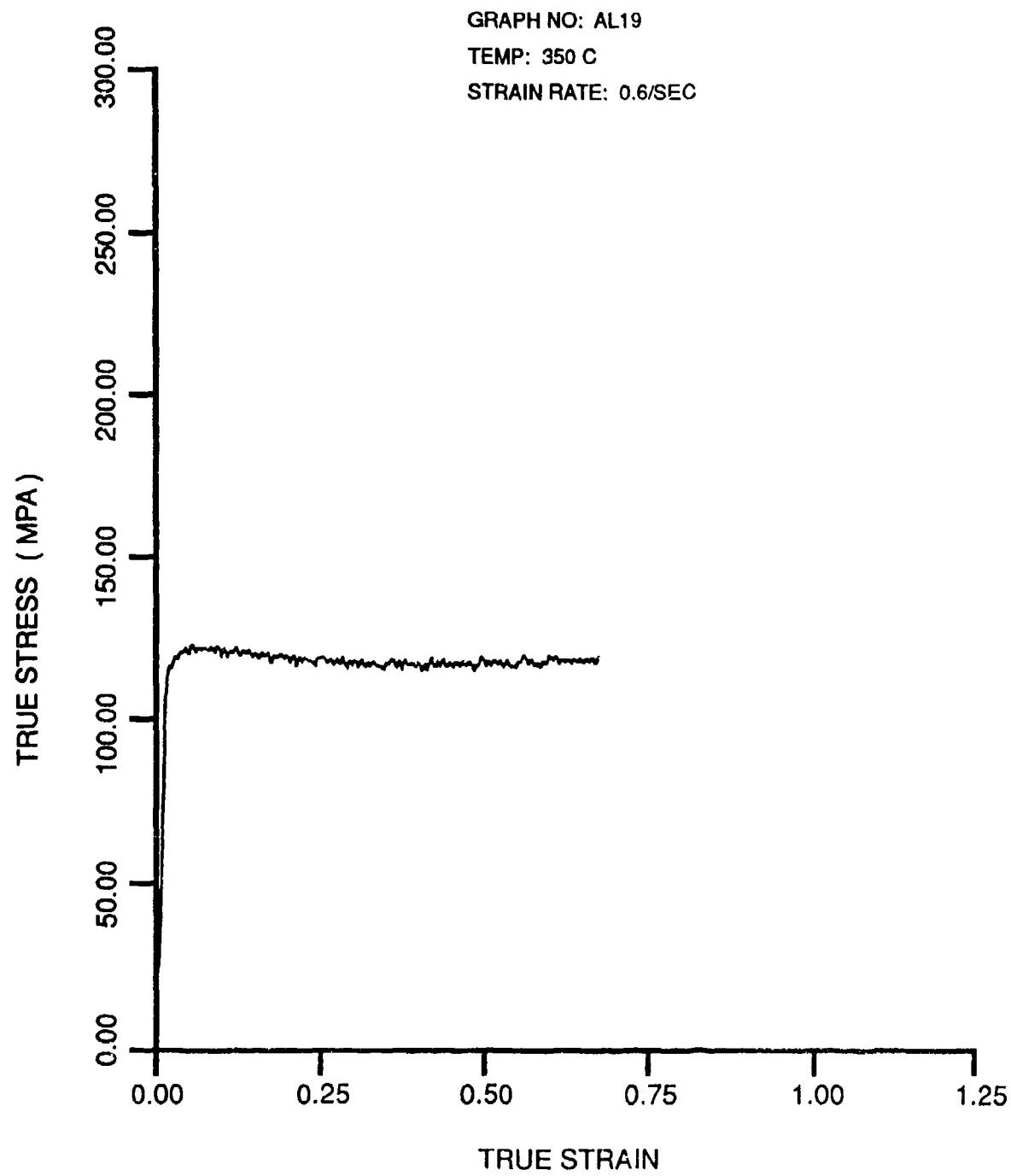


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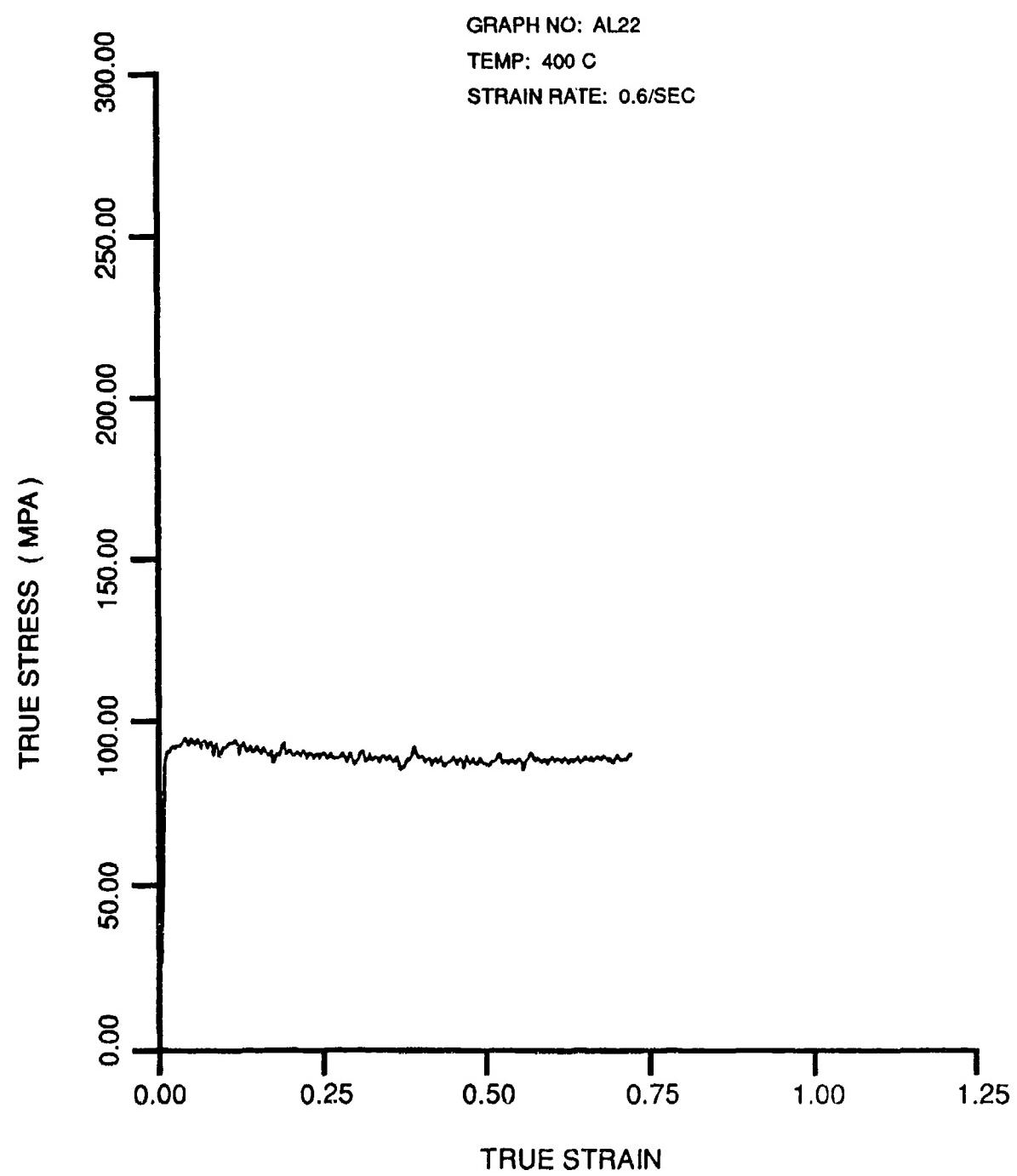
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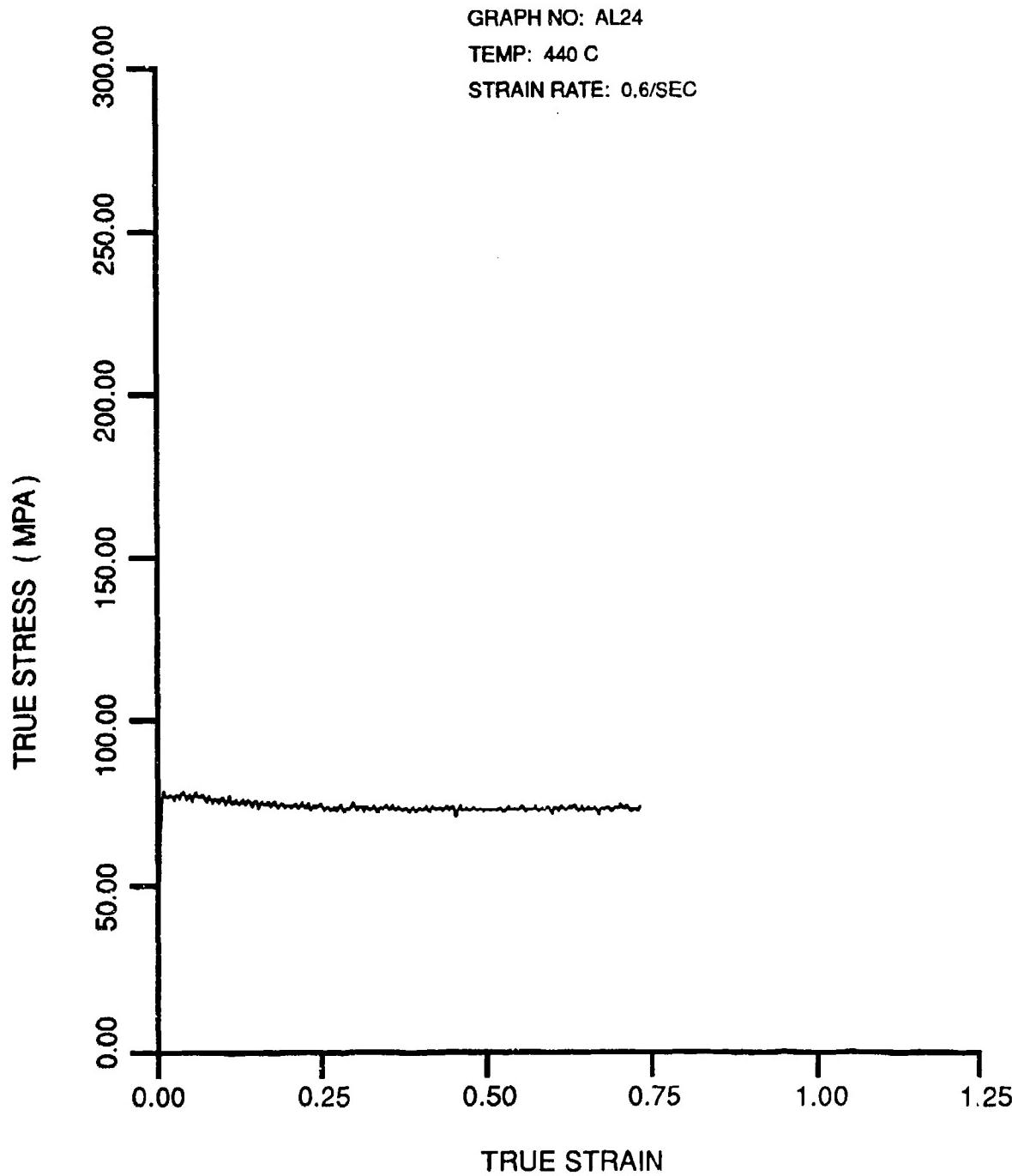
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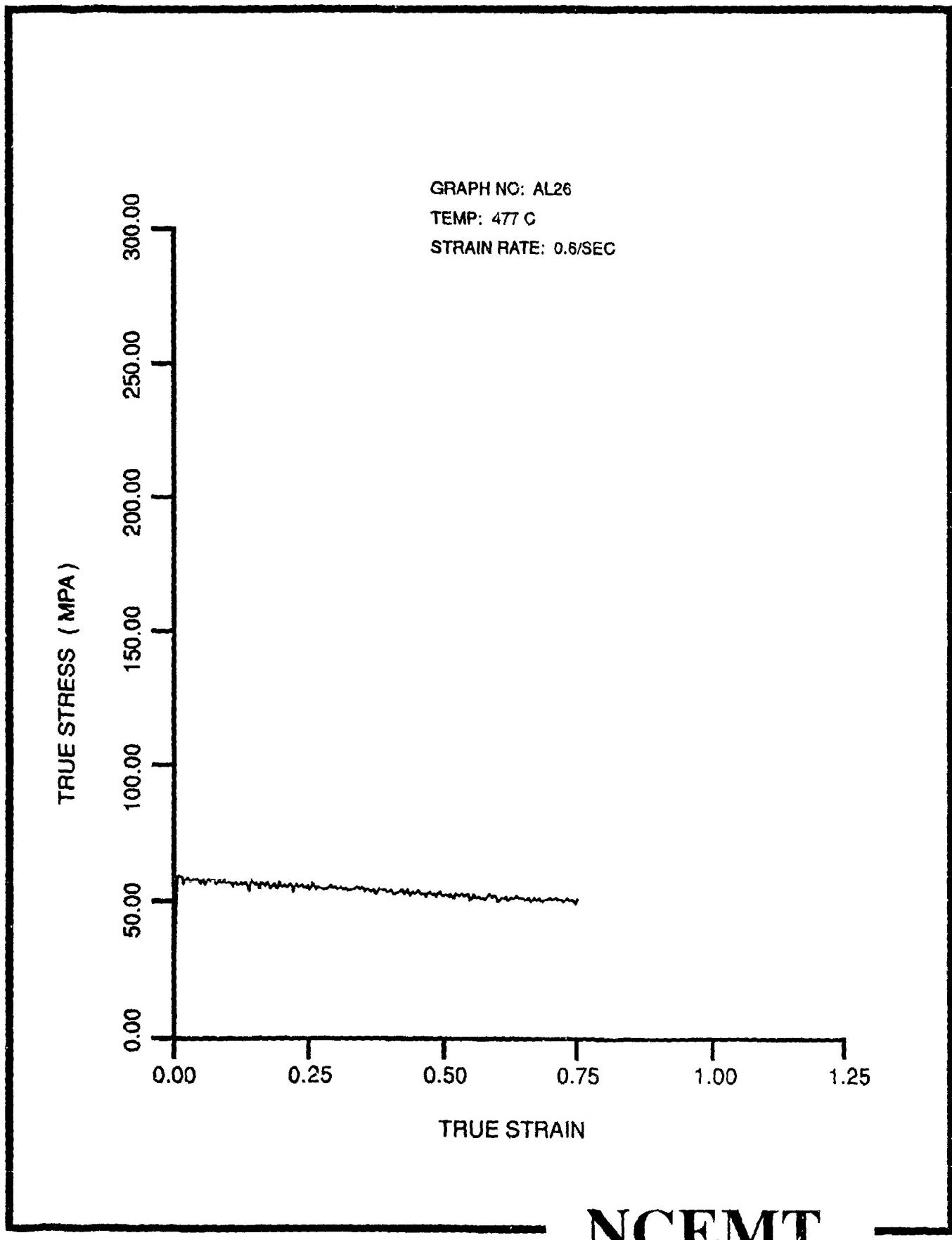
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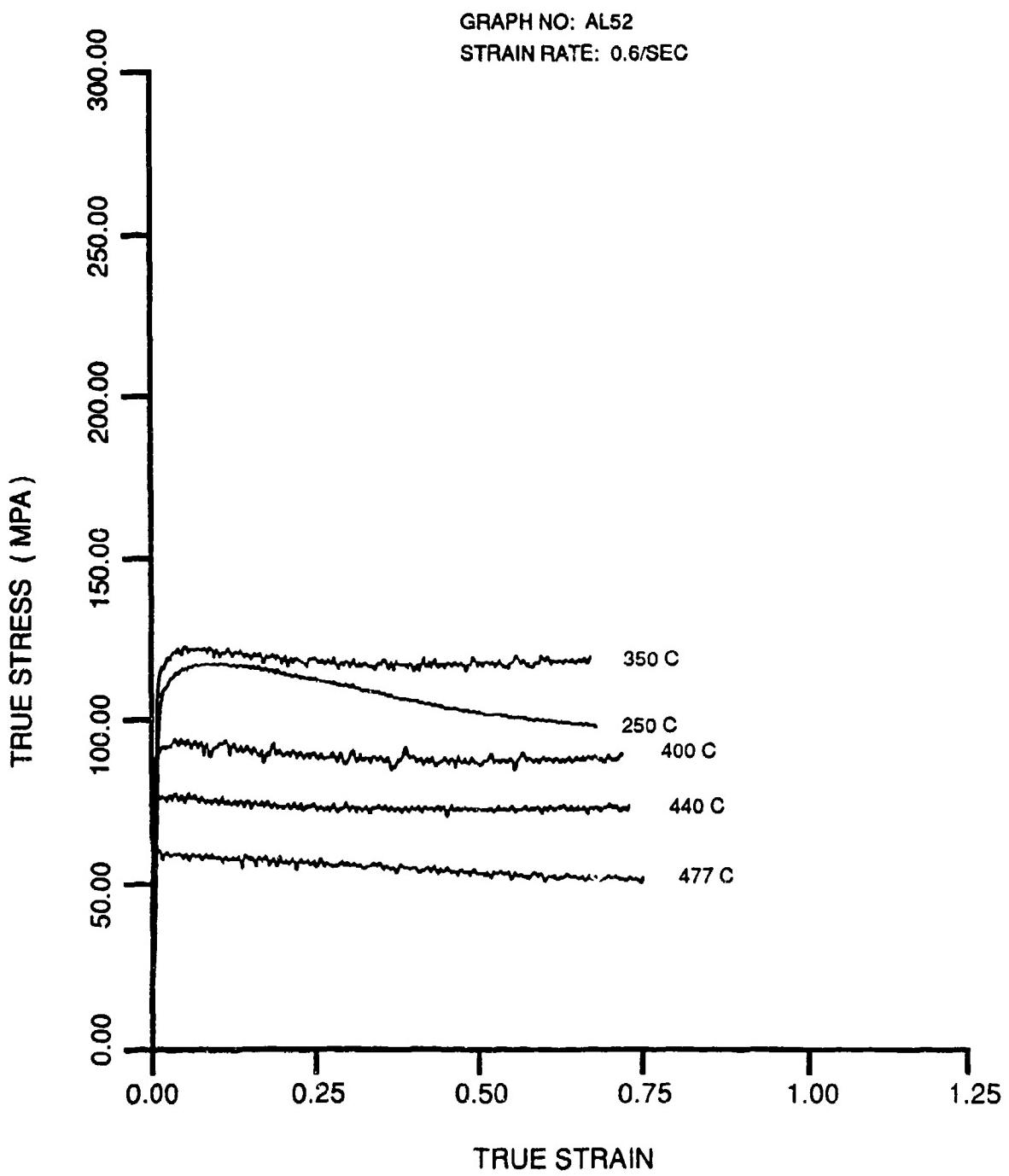
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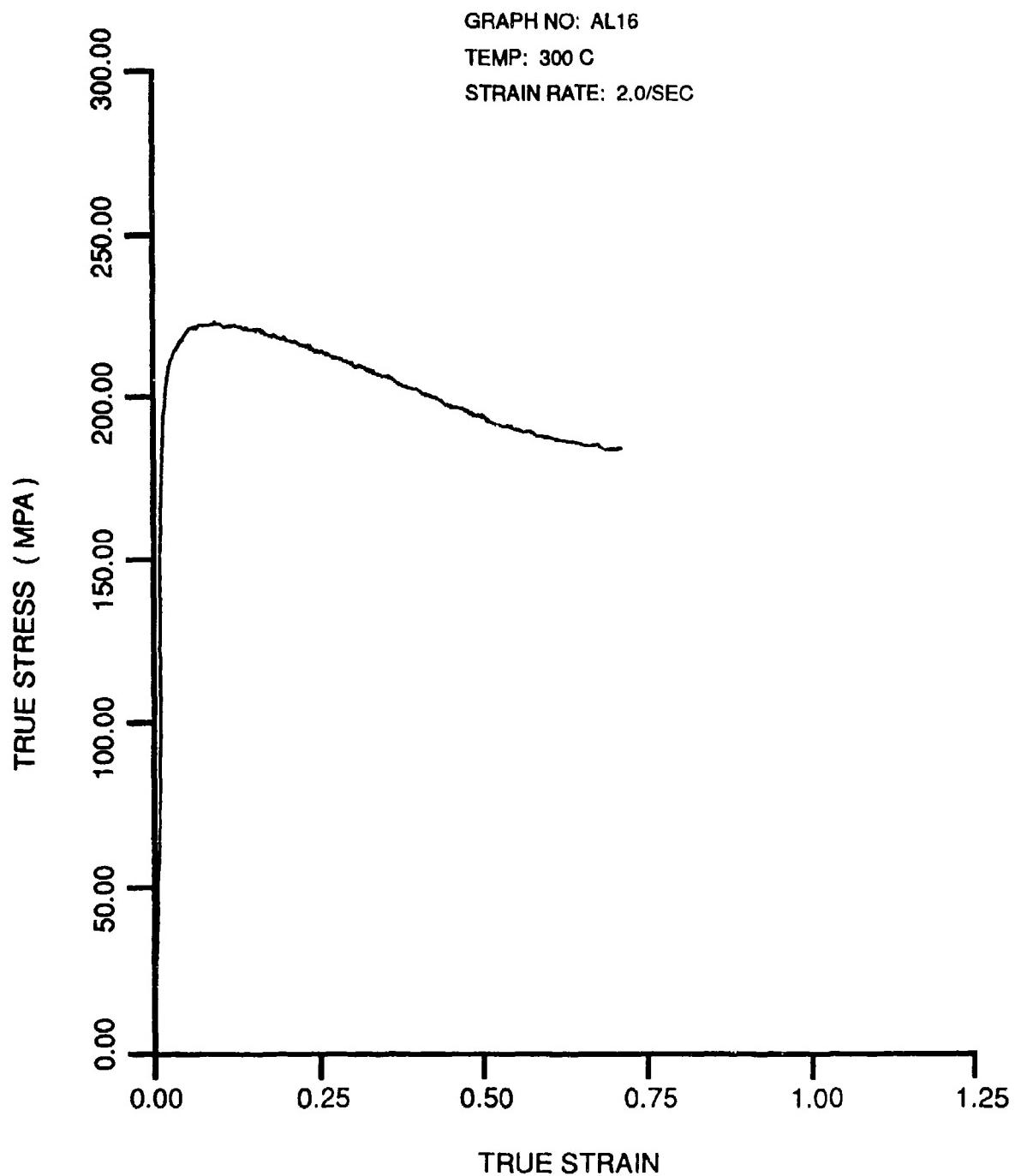
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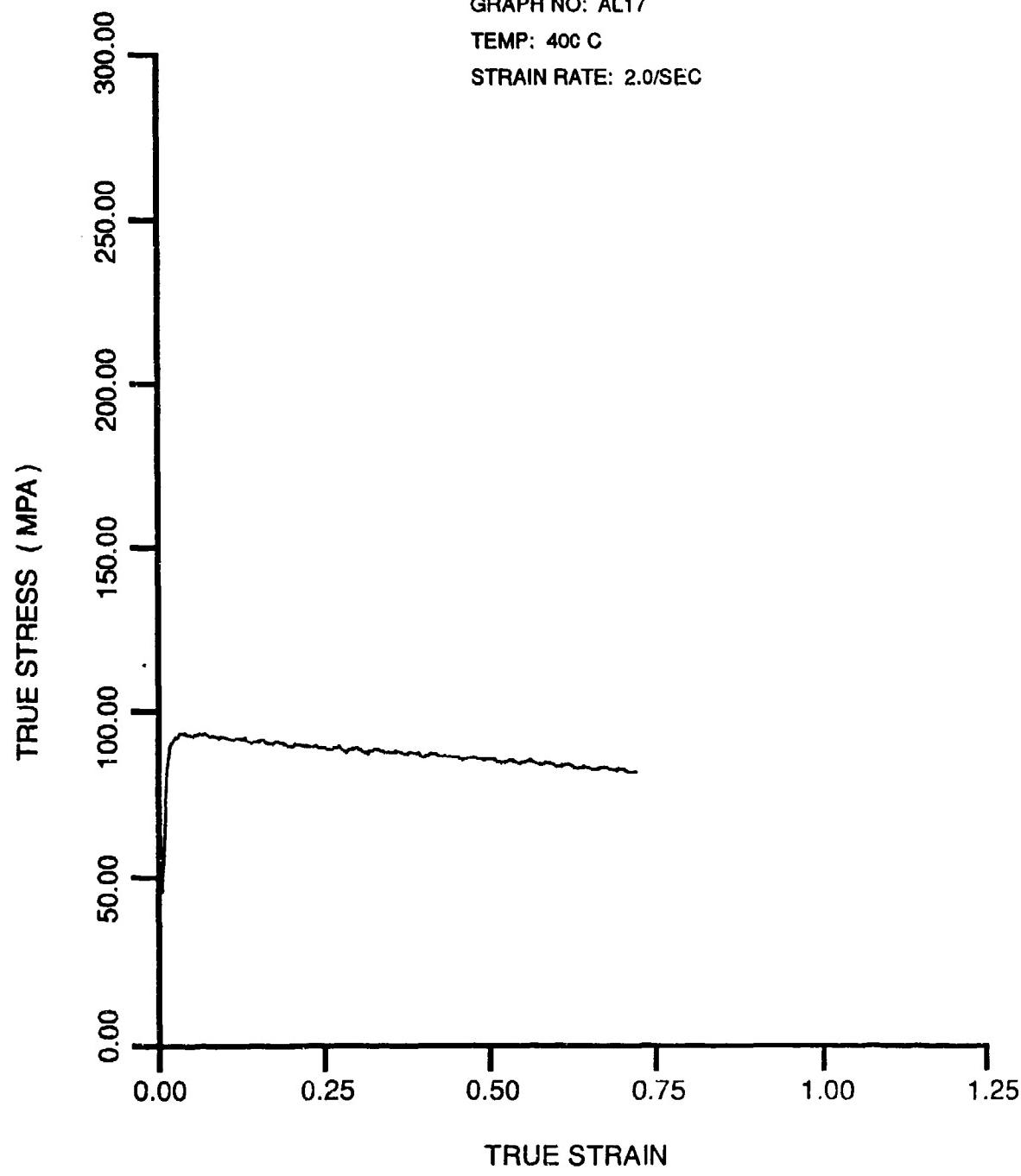


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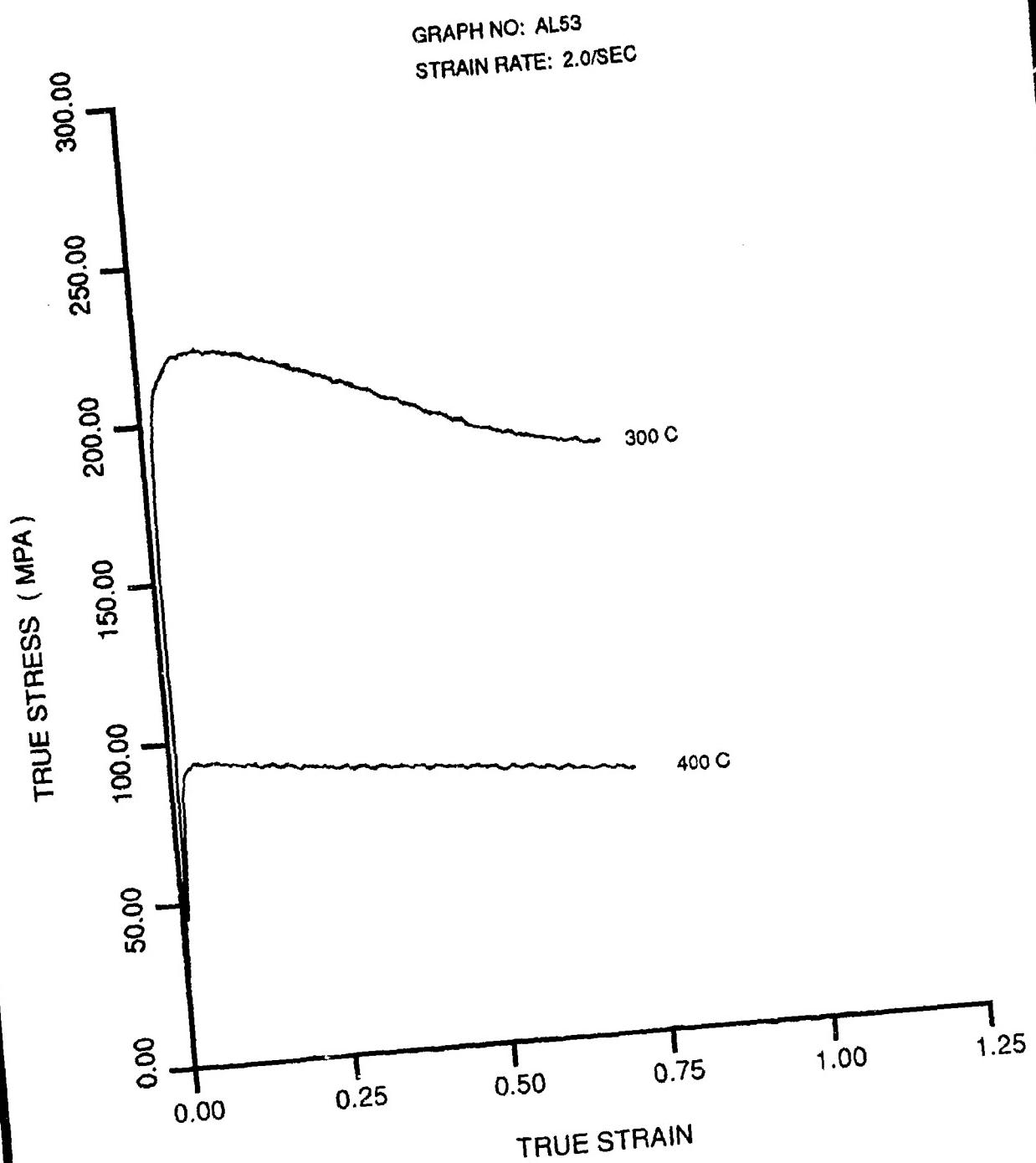


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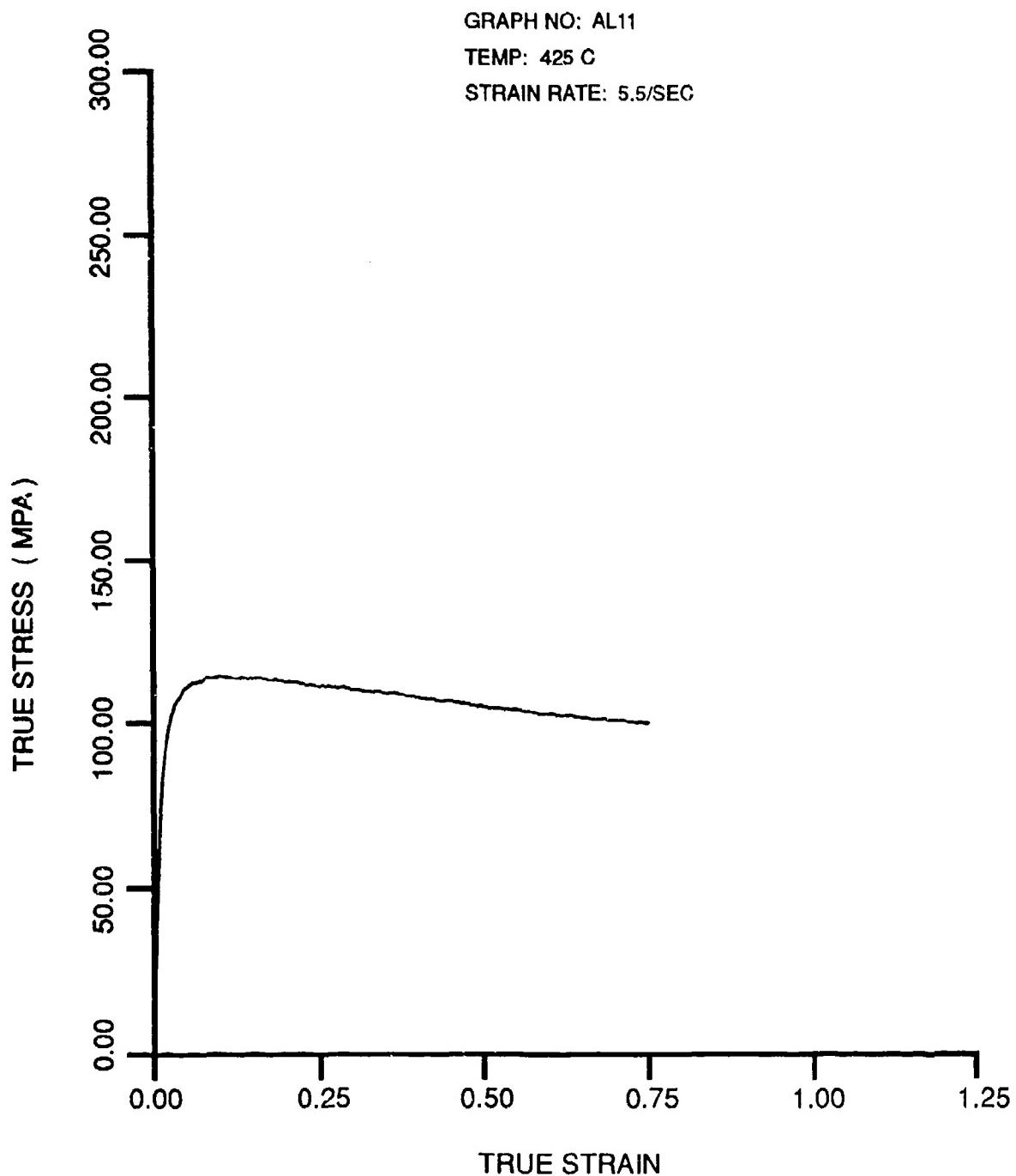
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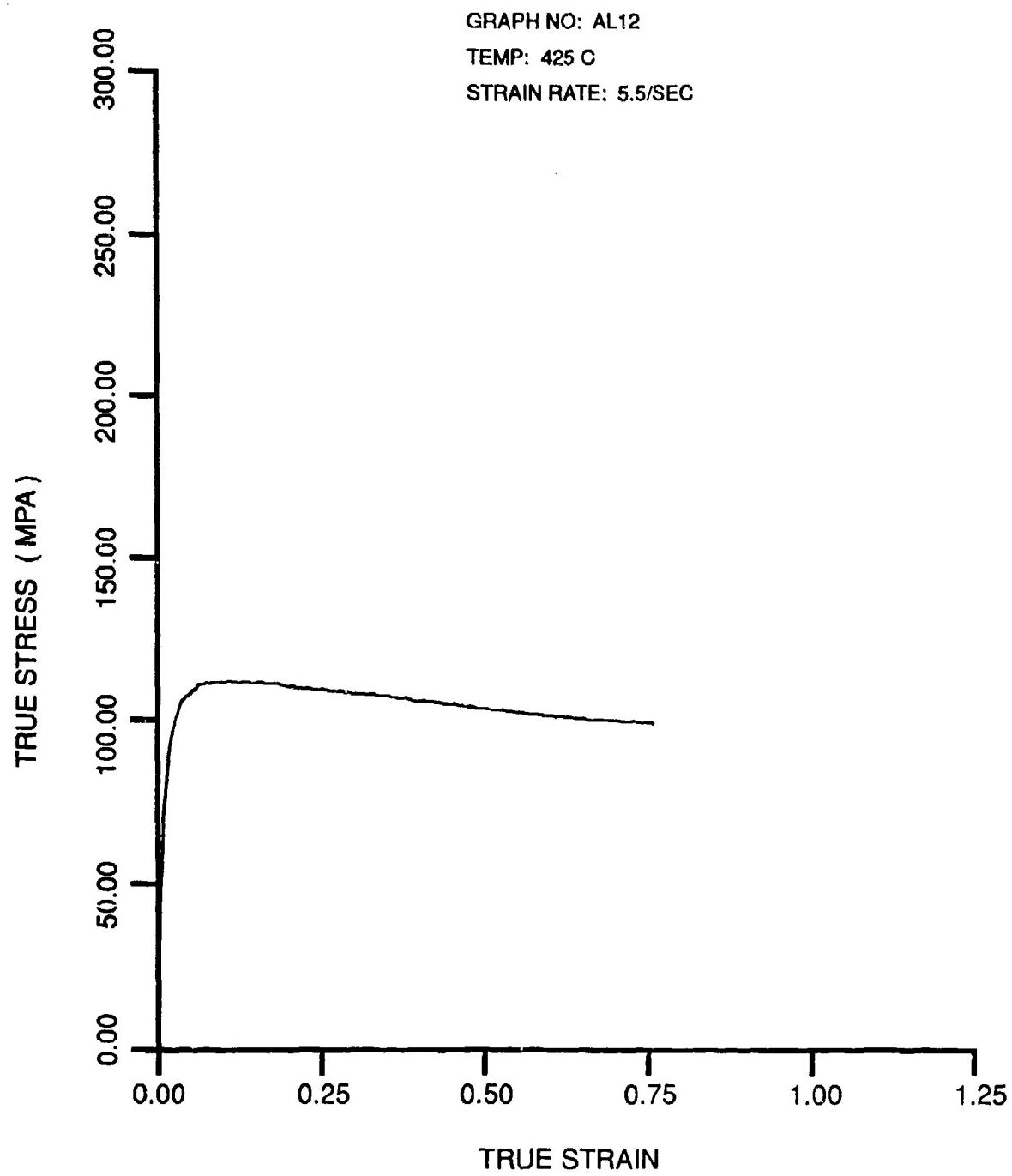
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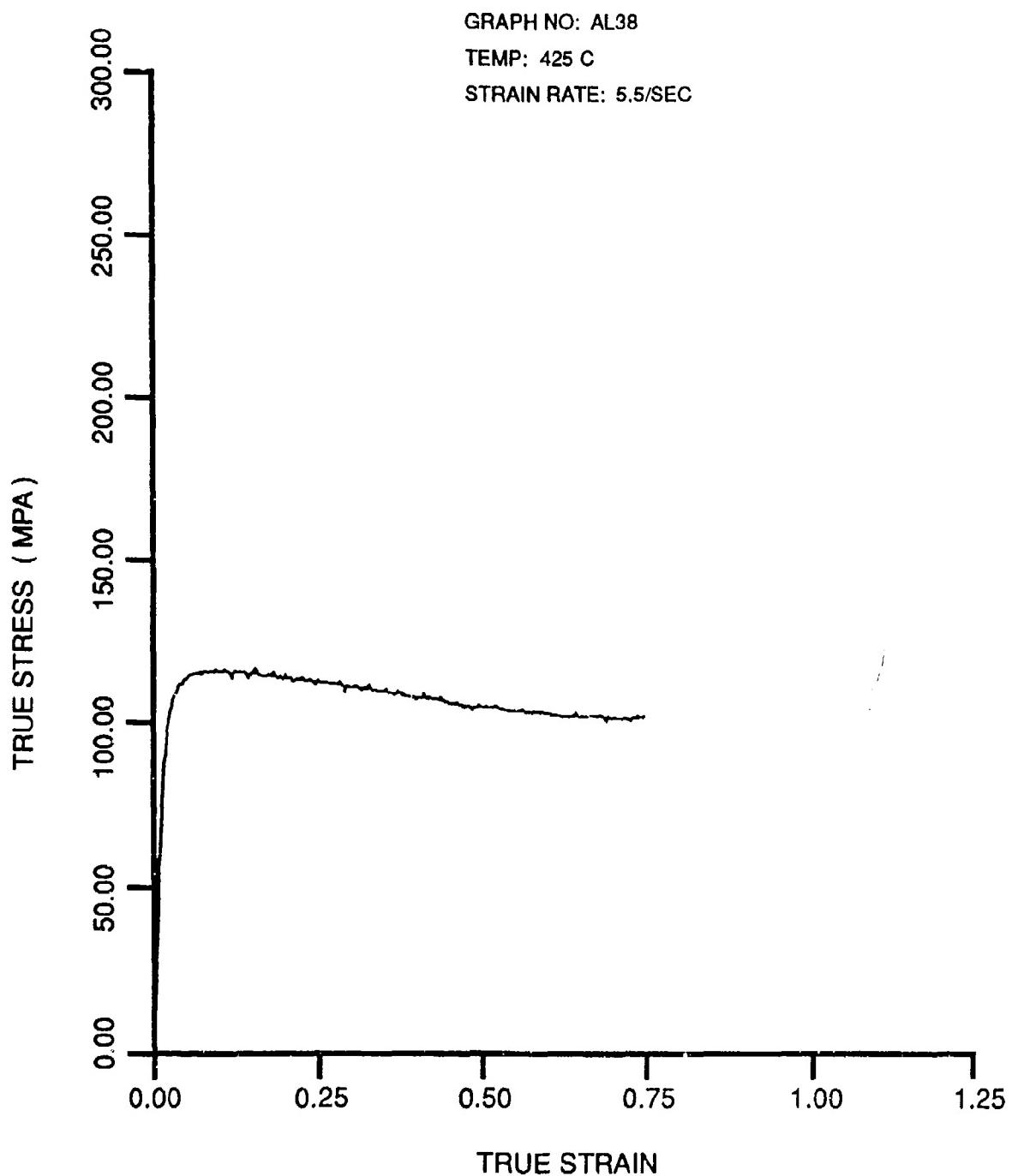
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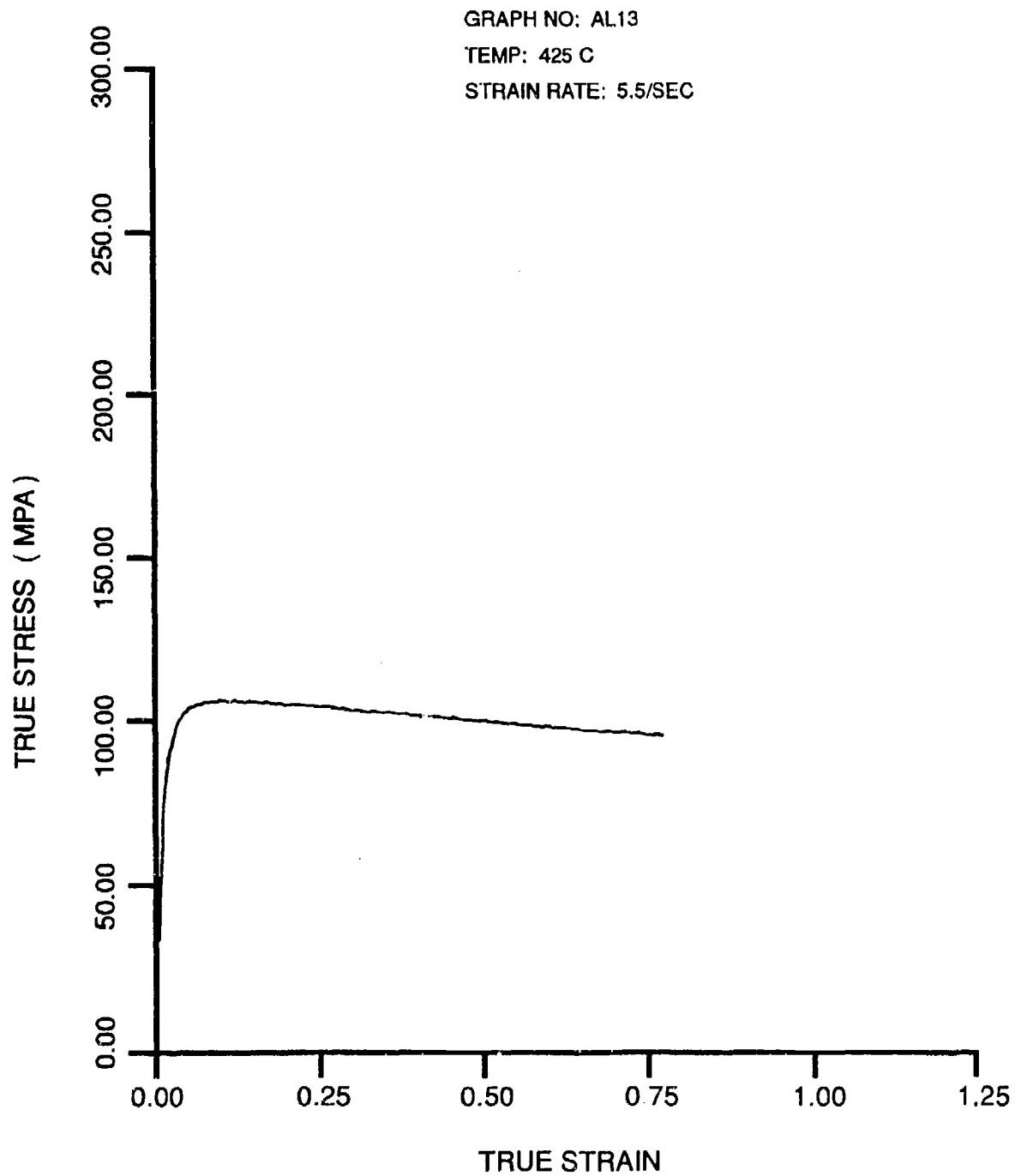
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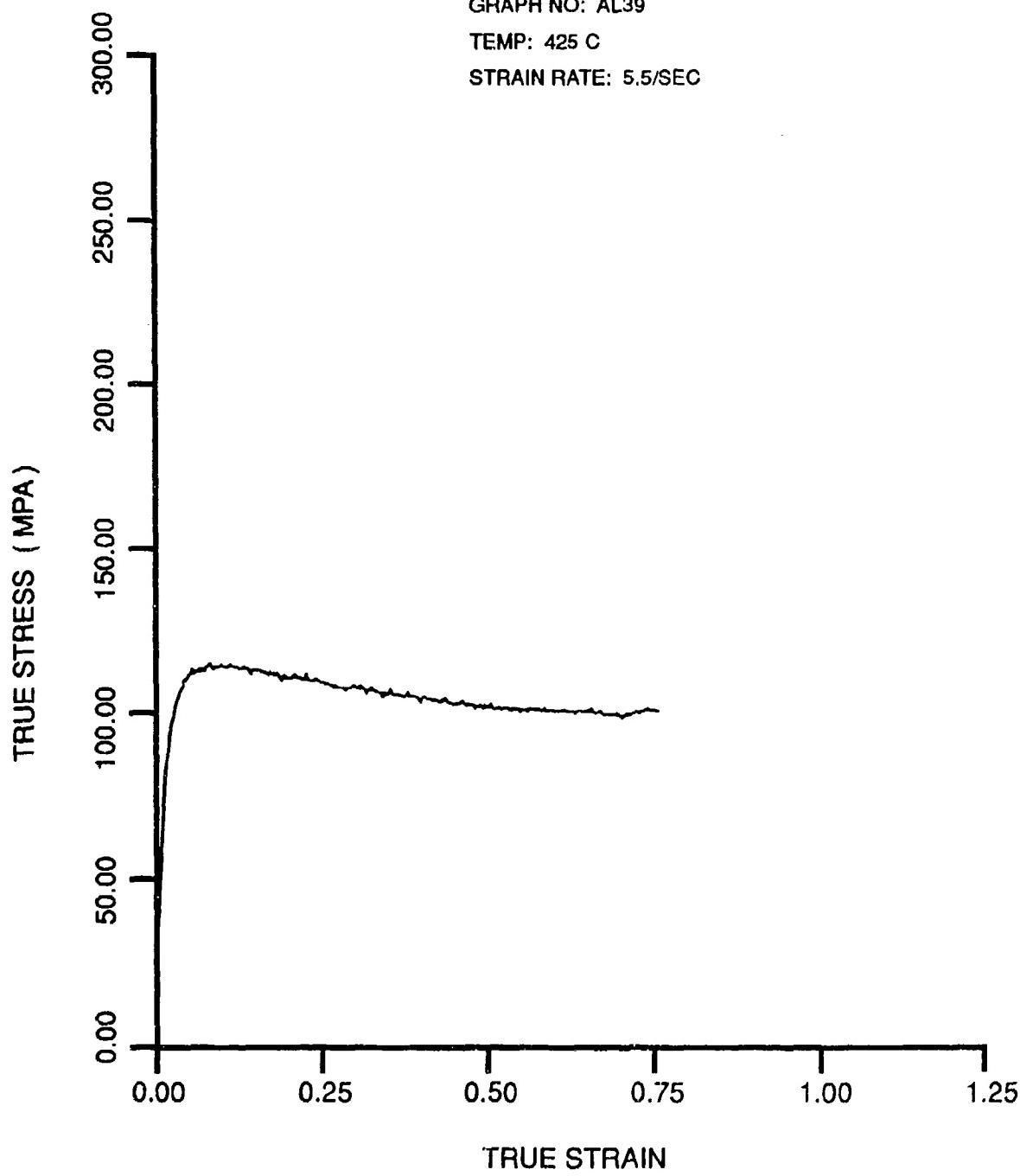


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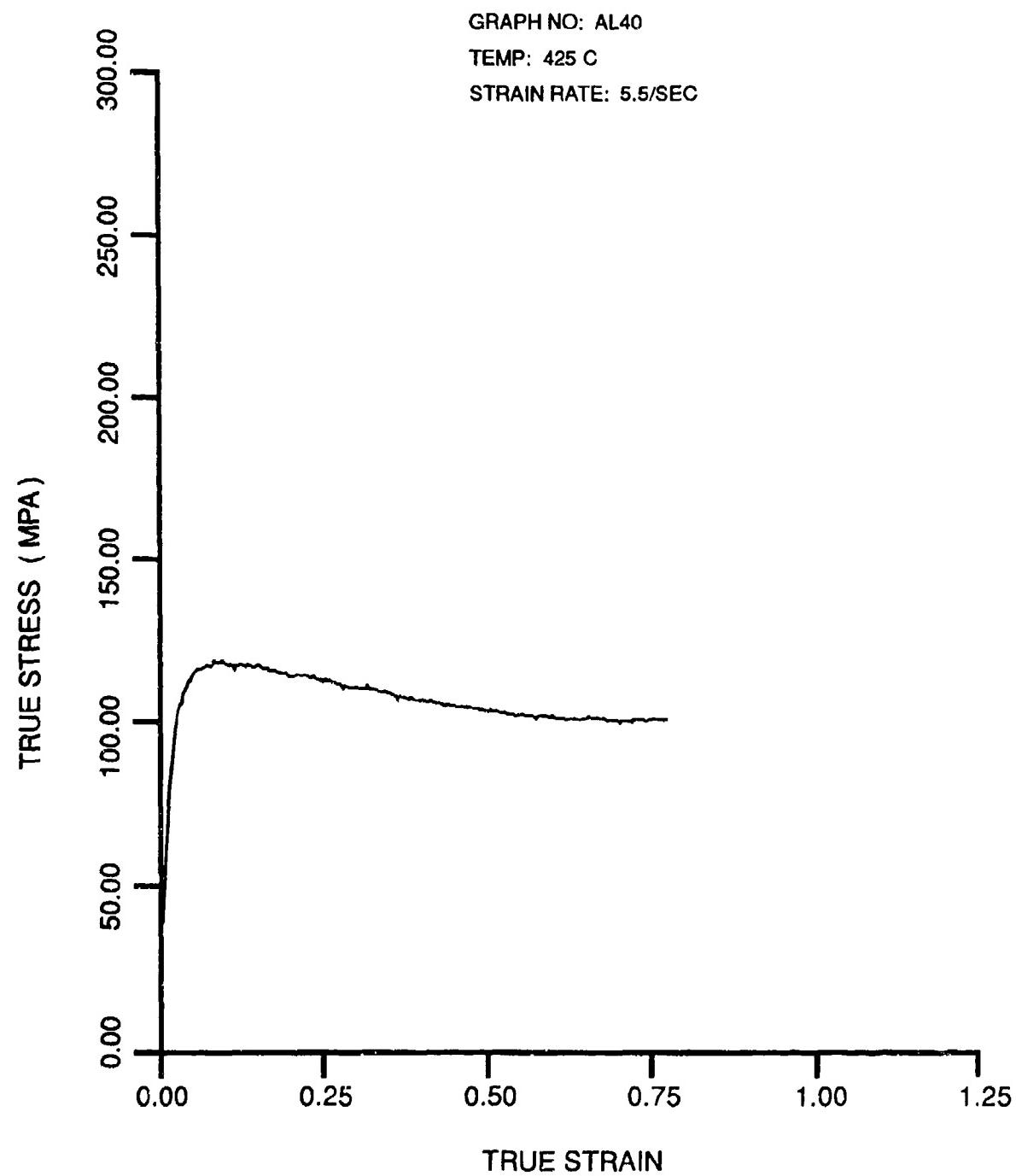


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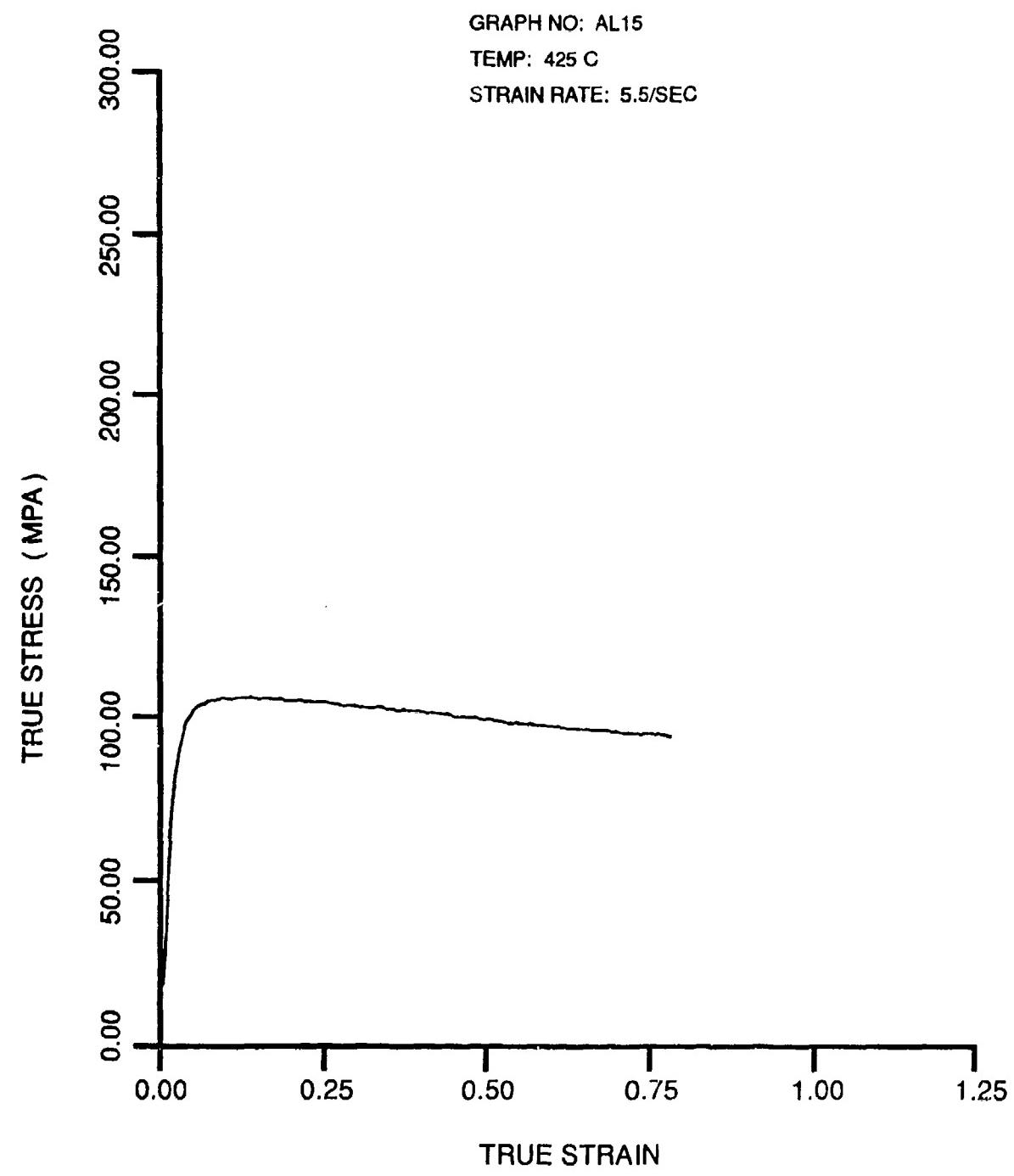
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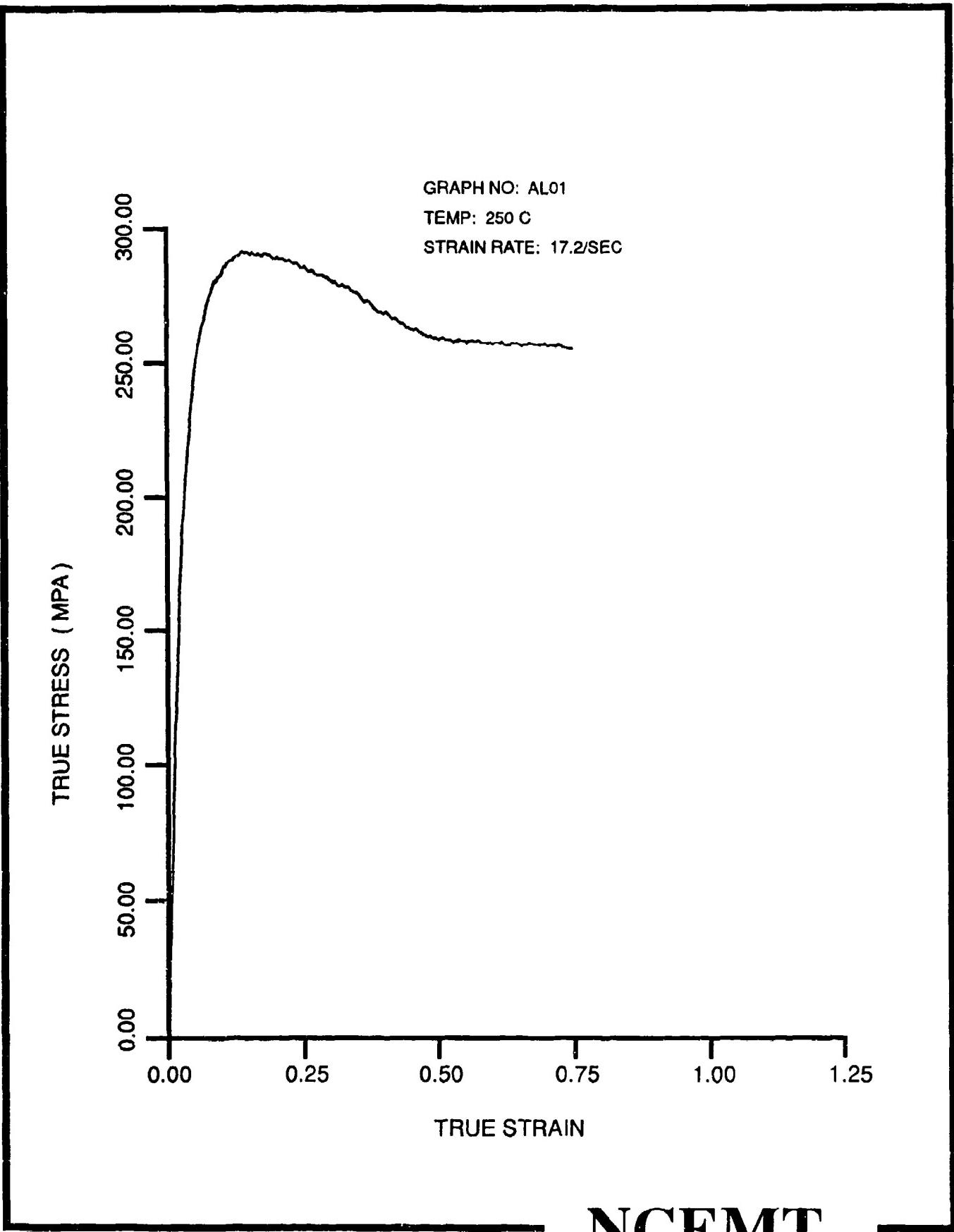
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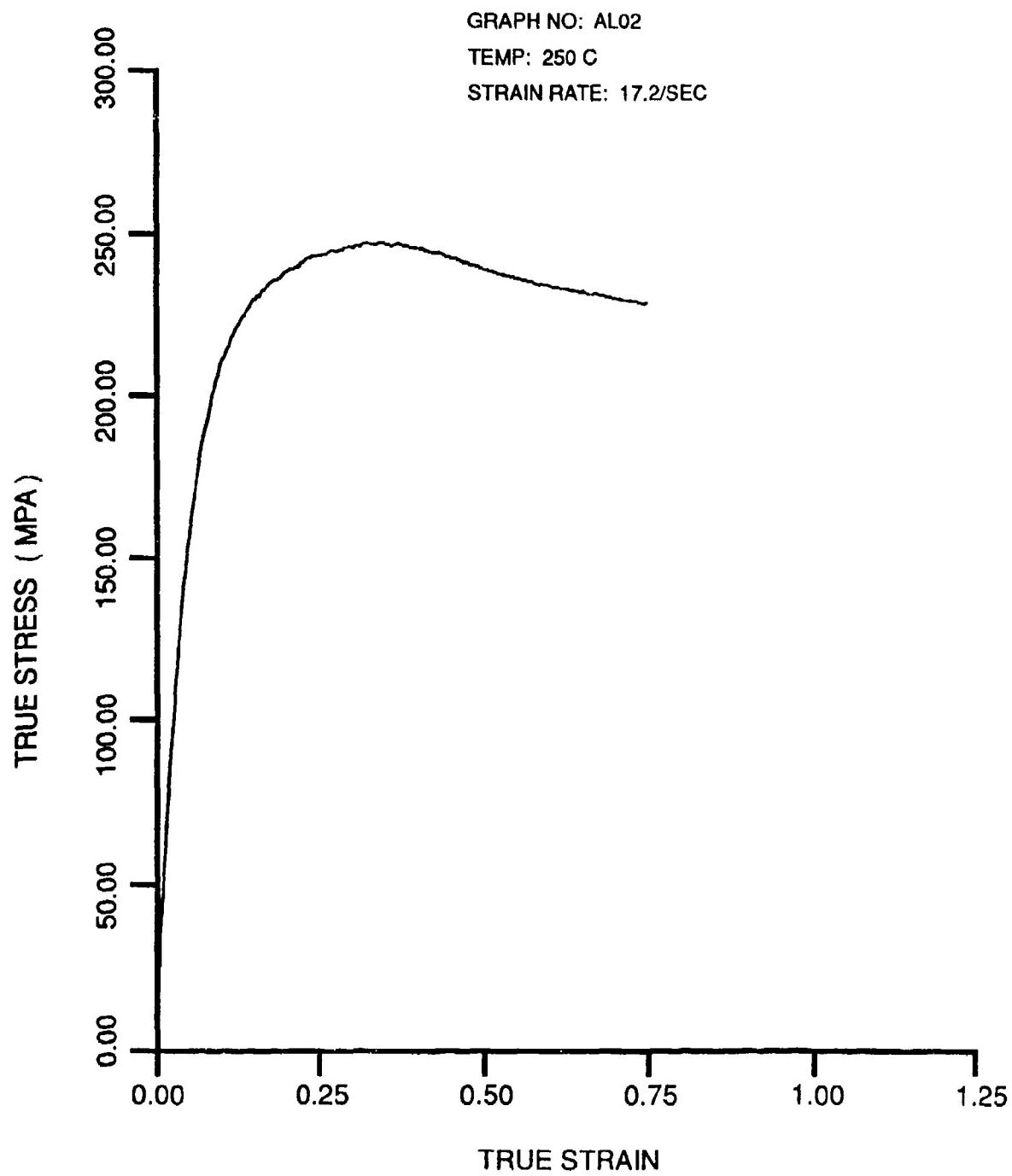
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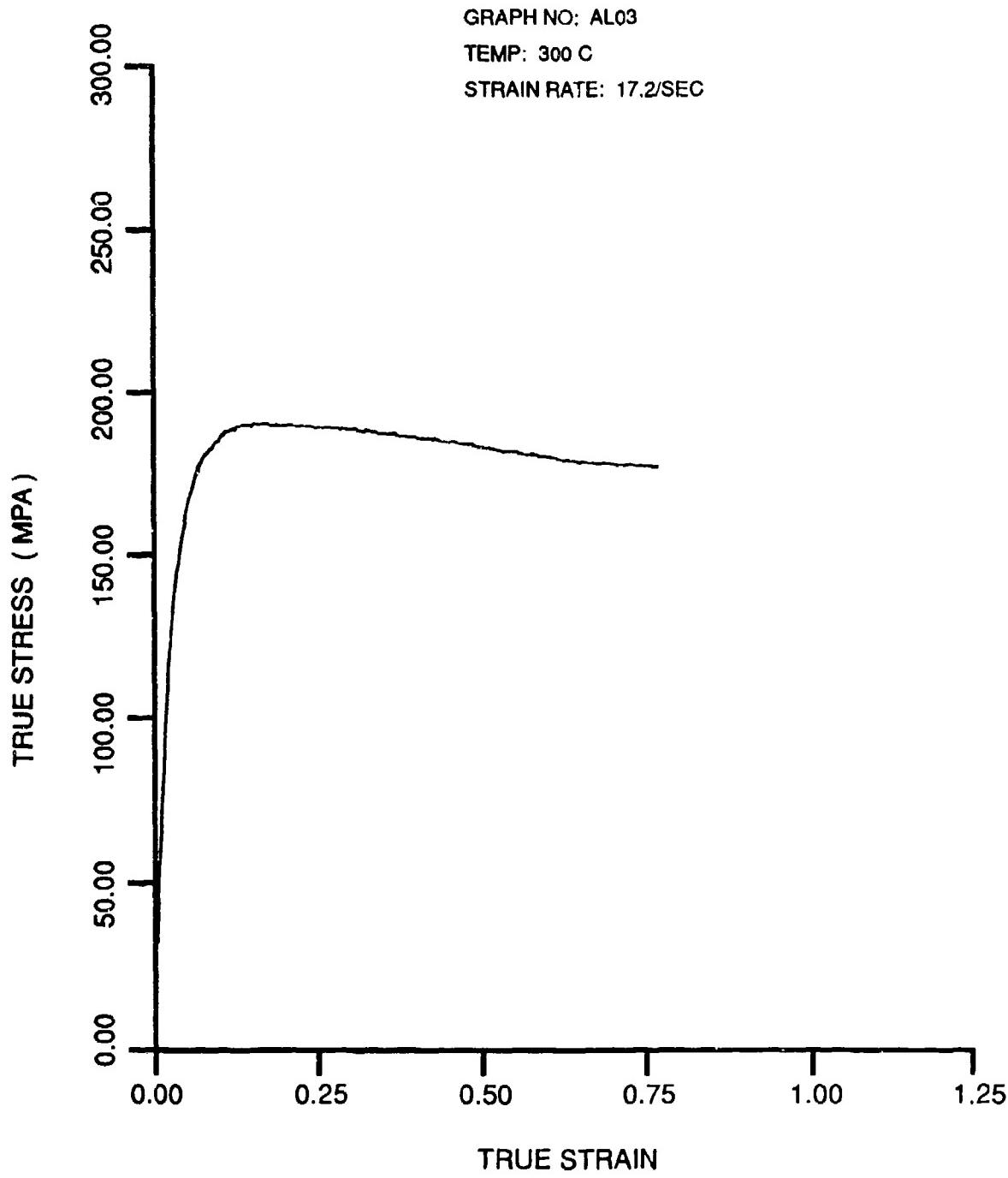
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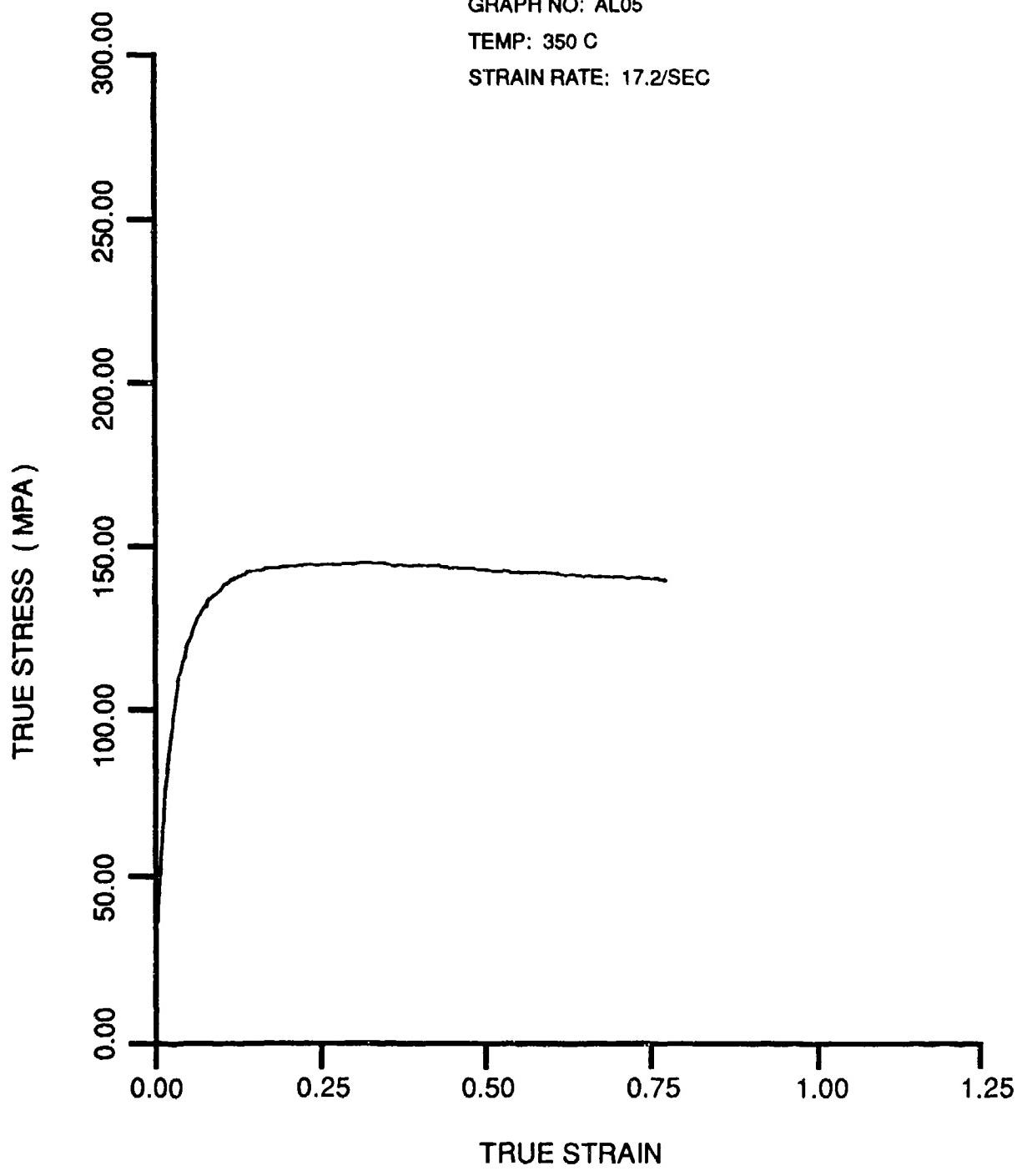


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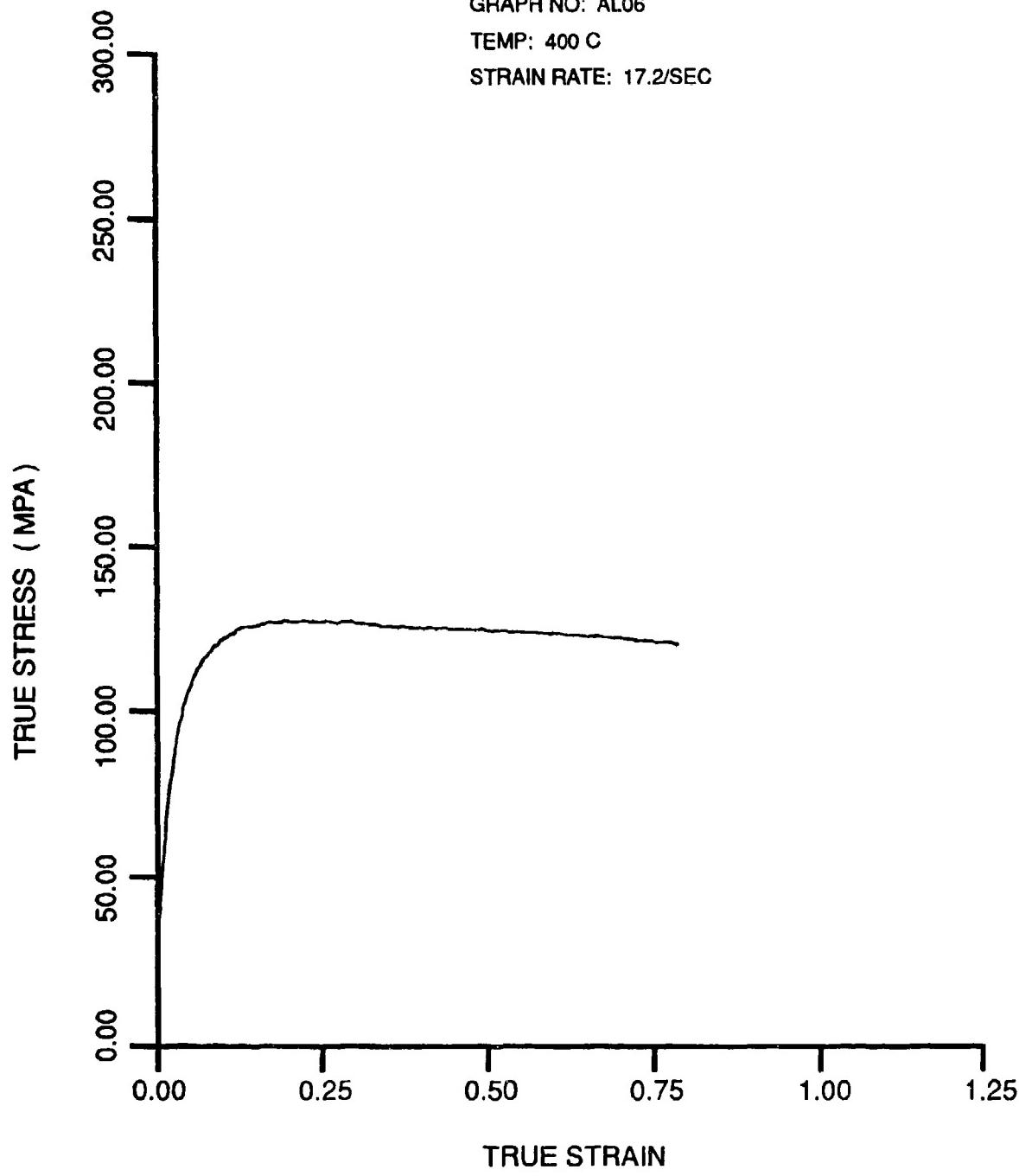
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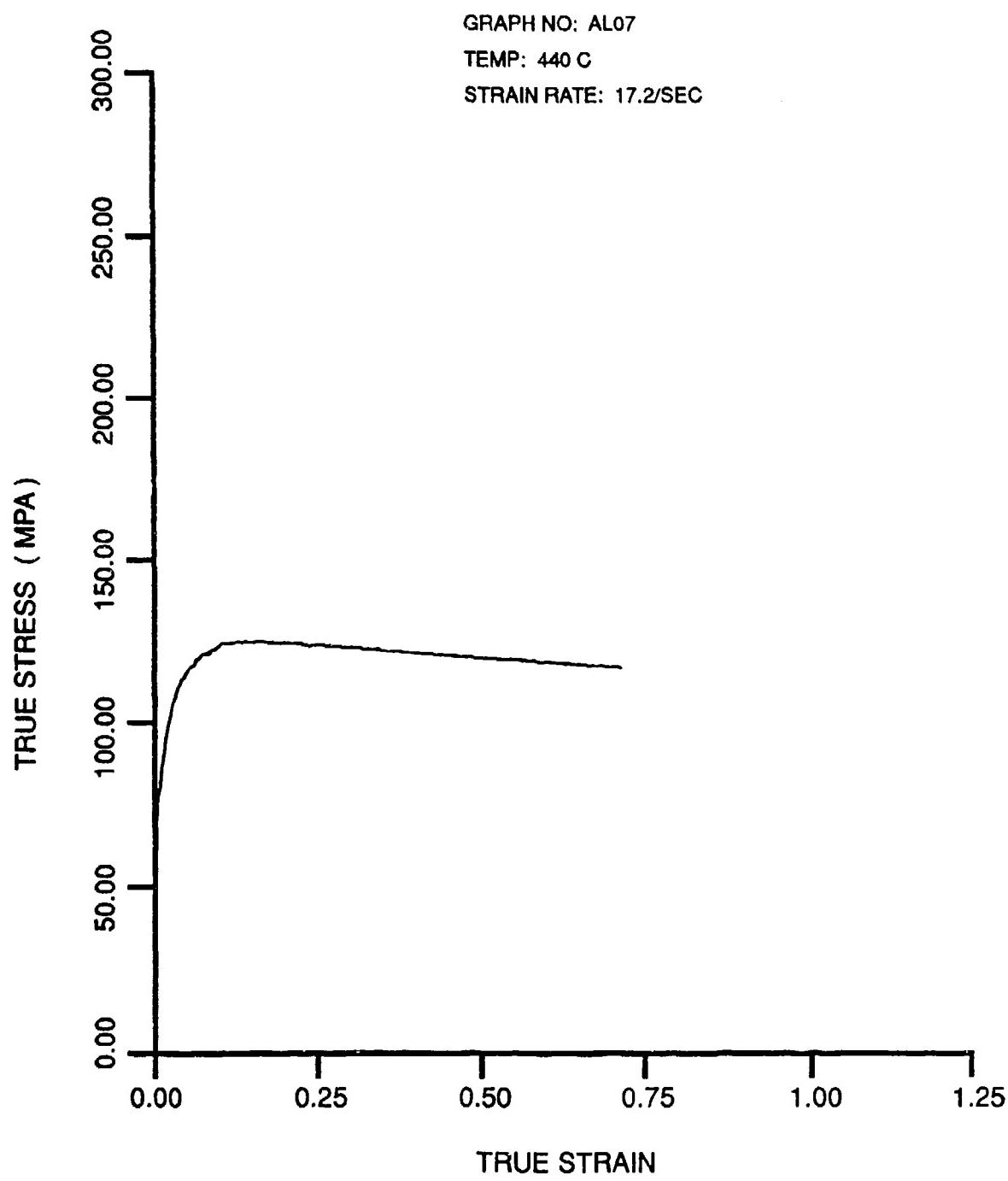


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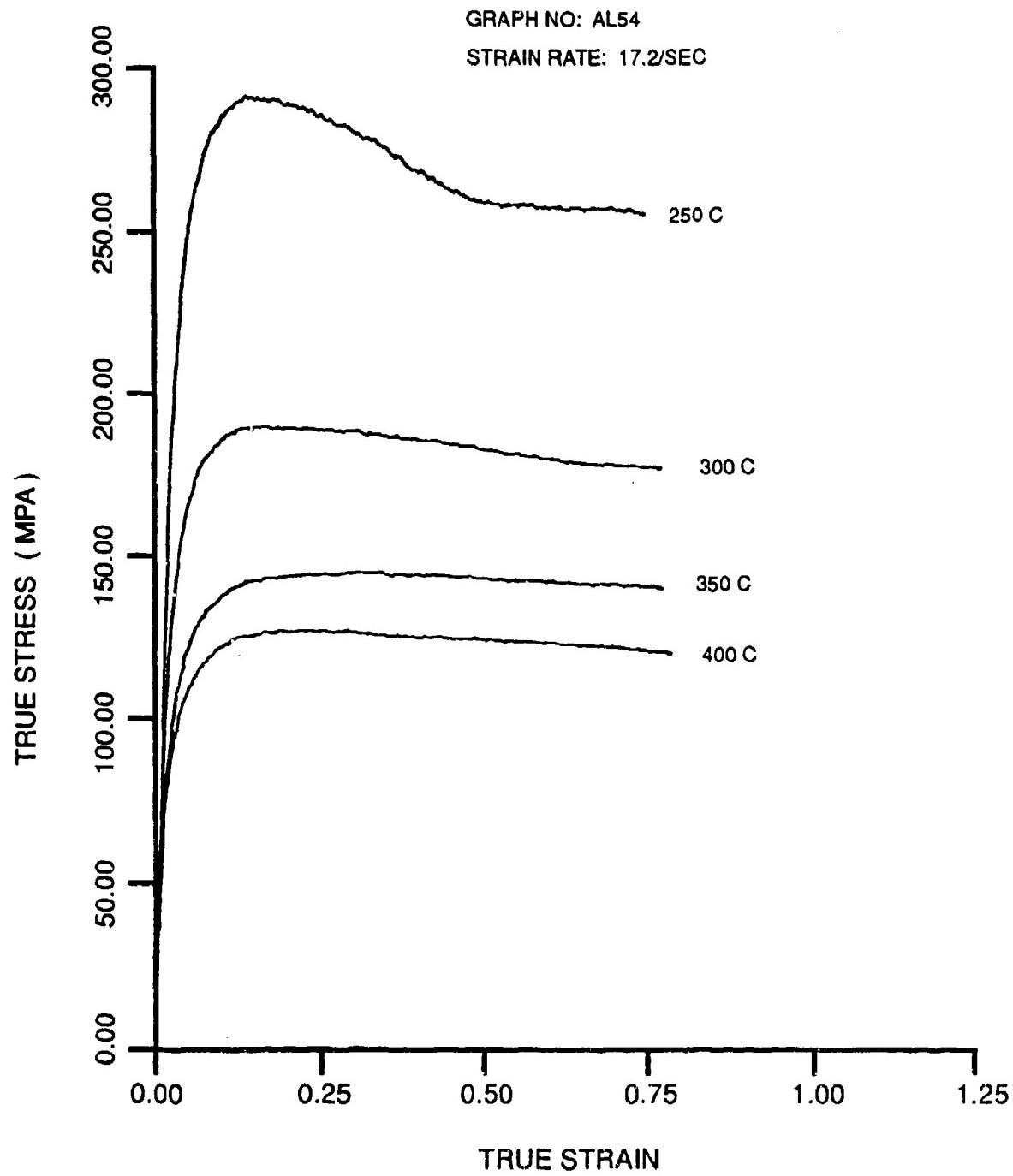
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